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When you can't see the city for the trees. A joint analysis of the Sonian Forest and urban reality

Quand les arbres cachent la ville. Pour une analyse conjointe de la forêt de Soignes et du fait urbain

Als we door het bos de stad niet meer zien: voor een gezamenlijke analyse van het Zoniënwoud en de verstedelijking

Lee Christopher Roland

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When you can't see the city for the trees. A joint analysis of the Sonian Forest and urban reality

Translation: Jane Corrigan

Considering the width of the Sonian Forest 'ecotone', the forest cannot be studied as 'nature' which is independent of urban dynamics. In this part of the urban area, the distribution of forms of developed land did not take place in the form of isotropic rings moving outwards from a central area represented by the Pentagon, but rather according to a second element historically tied to the latter, i.e. the forest itself. This article presents a chronological overview of the relationships between the mass of plant life referred to as 'the forest' and urban forms and the lifestyle practices associated with the Brussels urban area today. It first highlights the asymmetry created by the forest during the Ancien Régime in terms of the distribution of activities and developed land. It then reviews the role played by the forest in the processes of urbanisation in the south/southeast of Brussels in the 19th and 20th centuries. Finally, it explains the impact of these interactions on the construction of the forest landscape and on its management, before taking a stance with respect to how the forest should be dealt with today.

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Introduction

1. The analysis of the realities of Brussels and Brabant is usually confined to one referent: the institutional boundaries of the territory.[1] Admittedly, these boundaries have a certain function. But their pertinence may be questioned when studying territorial dynamics such as mobility, ecosystems or economic competition. These boundaries – geographically situated social abstractions – marginalise and fragment the temporal and spatial dimensions of these dynamics, thus interfering with their full comprehension. Is it nevertheless possible to act structurally in a geographic area without attempting to describe and objectivise these dynamics, which often condition – and have conditioned – both the progress of forms of developed land and the physical and biological processes with which they interact?

2. At a time when the notion of sustainable development is being popularised, it is useful to bear in mind that this type of development requires a prior understanding of these dynamics, going beyond the 'surface logic' [Corboz, 2001 (1983): 206, 225-226, 254, 288] specific to the administration of the territory to focus on the configurations *in situ*. The challenge is therefore epistemological: it is related to concepts, methods and means of representation which are associated with territorial reality. It presupposes an examination of the geopolitical status of the spatialities studied, as well as the relationships they have (at several levels) with other socio-spatial typologies generally understood independently of them.

3. It is therefore necessary to be cautious with respect to the concepts which intervene in the interpretation of urban reality (radioconcentrism, polycentrism, centrality, outskirts, etc.), as well as with respect to the categories which it contrasts with: the natural, the rural, openness. In other words, in order to establish modes of sustainable development, it is necessary to pay close attention to the elements which overdetermine our understanding of the territory, i.e. the 'scales', the 'frameworks' (conceptual and spatial) and the 'performatives' – the statements with legislative power – associated with it [Austin, 1991 (1962); Corboz, 2001 (1983): 210-211, 253-255; Secchi, 2006 (2000): 27-28; Agier, 2009: 52-53; Roland, 2011b: 7-9, for the detailed definition of the three terms in quotation marks].

4. In the case of Brussels, the Sonian Forest allows this challenge to be undertaken, as it represents cross-border ecological heritage, and because it calls spatial, historical and semantic referents into play, which have to do with both the natural and the artefactual. This article thus discusses the Brussels urban area[2] based on this entity. It focuses on the south/southeast part of Brussels, from the Pentagon to a series of valleys: in the south, the Geleytsbeek, the Ukkelbeek, the Linkebeek, the Meerbeek and the Hain; in the southeast, the Ijse and the Argentine; and in the east, the Woluwe and the Voer (see figures 4 & 6). It is not aimed at presenting a thorough analysis of this area but at showing that its understanding – and therefore, its management – is based on the production of specific knowledge which should free itself of institutional determinism as well as the normativity of certain political and/or academic constructions in the area of urbanism, spatial analysis and environmental management [Corboz, 2001 (1983): 203-207, 221, 249-256; Latour, 1997 (1991): 10-14, 23-50, 192-197; Larrère, 2009 (1997): 141-143, 154-156, 216-224; Latour, 1998; Secchi, 2006 (2000): 33-34; Feltz, 2003: 9-13, 97-99, 204; Agier, 2009: 10, 29-30].

1. If we could not see the city for the trees…

5. The dual nature of the Brussels socioeconomic landscape is a recurring theme [PWC & MPRBC, 2007: 67, 70-71; Kesteloot & Loopmans, 2009; MRBC-AATL *et al.*, 2010d: 30-31; GRBC, 2011: 52-53, 110, 267]. The south/southeast of the urban area is generally presented as being the home of the well-to-do classes. This contributes in part to the debates regarding the linguistic conflict, the mobility of commuters and the housing model represented by the residential allotment of one-family dwellings. These debates nevertheless focus rarely on the Sonian Forest. It is of course dealt with *on its own*, as an entity with an ecosystemic role within the *Groene Gordel* and the ecological network. But the views on dualisation or so-called peripheral spatialities [MRBC-AATL *et al.*, 2010d: 38] are rarely related to the nature of the territory itself, i.e. the relationships established between ur-

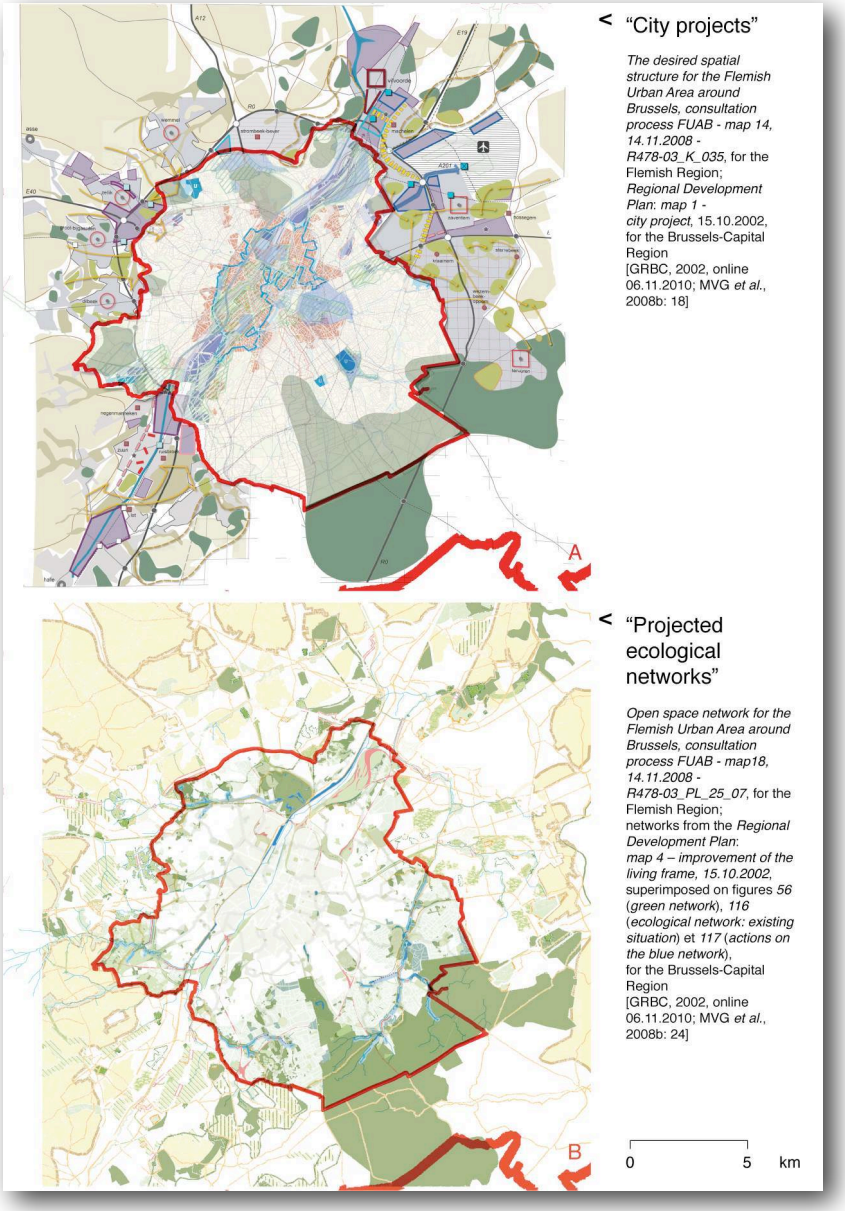
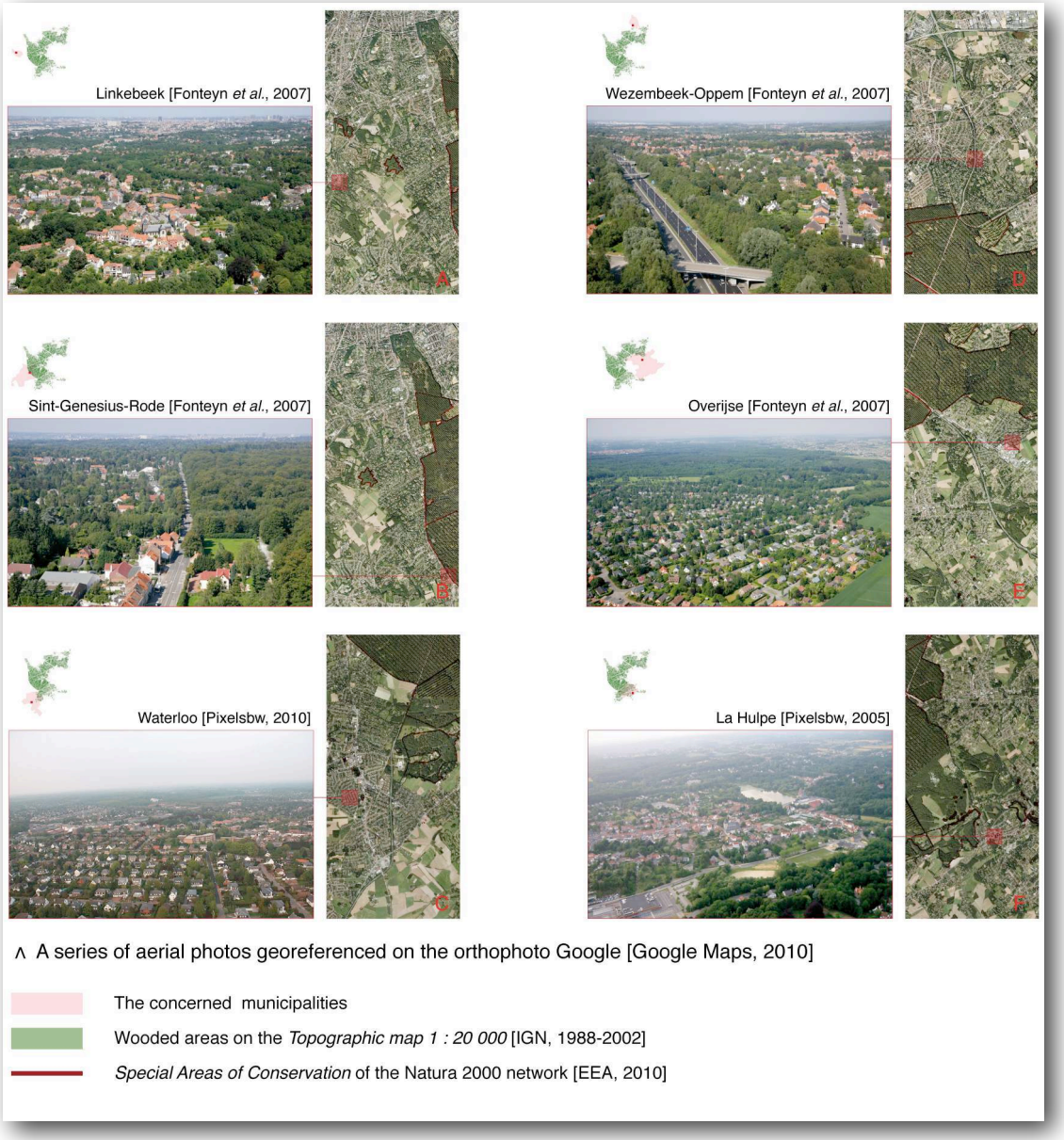


Figure 1. Juxtaposition (by the author) of strategic plans and regional ecological network projects

ban forms, lifestyle practices and physical structures. Thus, although the forest constitutes one of these structures, the aim is to denounce the risks of degradation which it incurs, or to argue in favour of protecting the 'natural ramparts' which it represents with respect to 'Brussels urbanisation', rather than explicitly analysing its role in the emergence and evolution of a highly spread out urban fabric.

6. Nor is this role of the Sonian Forest highlighted as part of planning tools [GW, 1999; GRBC, 2002; MVG, 2004; VR, PVB *et al.*, 2004] or in the framework of institutional mechanisms intended to make the urban development of Brussels more sustainable, such as the *Vlaams Strategisch Gebied rond Brussel* (VSGB) [MVG *et al.*, 2008a & b] or the future *Plan Régional de Développement Durable* (PRDD) [GRBC, 2011]. As demonstrated by the 'city projects' (figure 1a) and the ecological networks (figure 1b) resulting from these mechanisms, the relationships between the forest and surrounding areas are rarely dealt with. The notion of 'edge' is not very present, as the VSGB favours the notion of *Groene Gordel* and the PRD, that of the ecological network. The impact of the forest on groundwater and surface water [VMM, 2008: 39, 53-54], the way in which it regulates urban heatwaves [VITO, 2007: 7, 11; Van Weverberg *et al.*, 2008], and its socioeconomic impact on lifestyle practices [Roland, 2011a: 56-59, 157] are rarely considered. In other words, the wooded area is not considered as a founding element of urban development.

7. This situation is partly linked to the Belgian institutional context, which fragments the knowledge of the central part of the country. However, its epistemological dimension must not be neglected. For example, the reference cartographic sources and documents serving as a basis for planning – in particular the *Carte topographique 1: 20 000* [IGN, 1988-2002], the *Carte d'Évaluation Biologique* [Brichau *et al.*, 1997-2000 & 2000; INBO *et al.*, 2010] and the European network Natura 2000 [EEA, 2010] – limit the representation of the wooded area to the transcription of homogeneous soil covering. This in fact constitutes a reduction with respect to its geographic and ecosystemic scope.[3] In these representations, the forest is reified: it forms a distinct entity of fragments of habitat, 'green spaces' and surrounding agricultural surfaces. At physical and biological level, these spatialities form



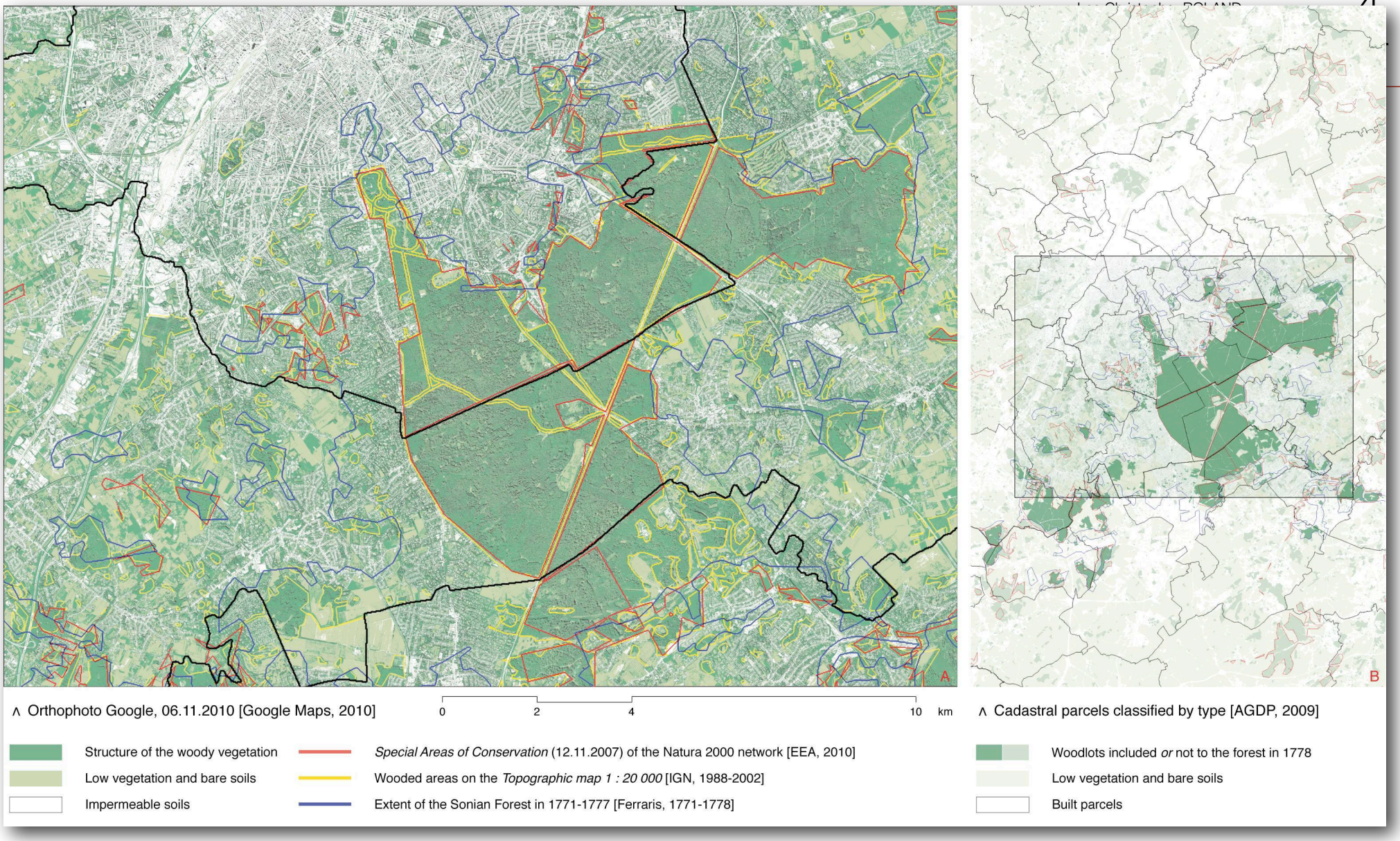
∧ A series of aerial photos georeferenced on the orthophoto Google [Google Maps, 2010]

'ecotones'.[4] At usage level, they direct the future of the wooded area.

8. Figures 2 and 3 – made from detailed orthophoto maps – present the 'discrepancy' which may exist between these representations and the configurations *in situ* of developed land and green areas. This type of discrepancy may be seen in particular in the configuration of the *Special Conservation Zone* of the wooded area, which was established when it became part of the Natura 2000 network in 2007. By associating a reference spatiality with the wooded area, this spatial definition perpetuates a specific land use designation: the wooded area. But, at regulatory level, it also isolates the forest from its edges. If one subscribes to the 'individualist hypothesis'[5] of the structuring of plant communities, this delimiting operation does not give itself the institutional means for a better understanding of the evolution of the forest with respect to its environment. In reality, it favours autonomous management methods (see figure 1), to the detriment of land use planning projects which pay closer attention to their 'ecological' impact.[6] In this respect, figure 3 clearly highlights the overlapping of developed land and green areas beyond the areas currently associated with the forest. In addition to being normative, the challenge is therefore also related to the landscape [CEE, 1992; Campbell & Reece, 2007: 1174, 1277, 1311, 1324-1325; LAFS, 2009: 104].

9. The difficulty involved in considering the forest within a pertinent spatial extension and in taking its structuring role in urban development into account may be overcome with a historical, anthropological and spatial description of the wooded area and its surroundings [Geertz, 1973: 24-28, & 1998; Arnaud, 2008: 7-10; Mary, 2008]. This will be the focus of the rest of this article.

Figure 3. Dense woody vegetation spreads beyond the Special Conservation Zones of the wooded area and does not exist in a similar form in other parts of the urban area



2. Defining the Sonian Forest as an ecosystem

10. Describing the forest implies a prior change of scales and cartographic codes in order to integrate the following situation (figure 4): the Sonian Forest constitutes the only large-scale wooded area between the Belgian coast and the Sambre and Meuse valley, and its condition is urban for two reasons.[7] The forest is located in the area of influence of the Brussels urban area as well as occupying a central position with

Figure 2 – Result of a pixel analysis highlighting the plant structures present within the area considered. Map made by the author using the software ENVI, covering an area of about 20 x 14 km

respect to the *North Western Metropolitan Area* [CE, 2007: 8; INBO, 2009: 69-77]. It is at the heart of a elliptic configuration delimited by cities such as Antwerp, Ghent, Kortrijk, Lille-Roubaix-Tourcoing, Lens-Liévin, Douai, Valenciennes, Mons, Charleroi, Namur, Huy, Liège, Maastricht and Hasselt. Its status is not comparable to that of forests in Ardennes and Kempen, or to that of the European beech forests situated in rural environments [Daise *et al.*, 2009: 23-24]. Unlike the latter, the Sonian Forest does not have a large-scale ecological equivalent within 60 km of its edge [EEA, 2006; EEA, 2010]. Furthermore, it is particularly exposed to urbanistic pressure.

11. On a Belgian scale, the Sonian Forest is thus the only wooded area whose continuity depends on a significant number of forms of developed land – buildings as well as many mobility networks – associated with practices which have a direct impact on it. For these reasons, its diagnosis must go beyond the strict regulatory areas in order to objectivise two dimensions: on the one hand, the spatial area of these ecosystems and their relationship with water and soil; and on the other hand, the impact of human activities on these ecosystems.

12. The first dimension implies an identification of the interactions between the wooded area and the valleys whose source is located there, such as the Argentine, the Ijse and the Woluwe. It also requires an understanding of the role of the biogeochemical system formed by the forest and Bruxellien sand[8] in the preservation of groundwater quality, particularly that of the Lédo-Panisélien Bruxellien aquifer[9] presented in figure 4 [DGARNE, 2005: 10, 17; DGARNE, 2006: 3-13, 23-24, 27; VMM, 2008: 12, 20-21, 24-26, 33-35, 39-40, 53-54, 68; Daise *et al.*, 2009 & 2011: 42-45; LAFS, 2009: 181-195; CIW & VMM, 2010: 11-12, 21, 39; DGARNE, 2010: 5, 19, 22; Langhor, 2010; Vandermotten *et al.*, 2012: 7-12].

13. The second dimension calls for an evaluation of the influence of types of settlement on the forest and its ecotones, as regards 'local' uses (leisure activities, farming methods, residential landscaping, configuration of drainage networks, building practices, geothermal science, etc.), as well as in terms of infrastructure projects (RER, widening of the ring road, development of the Delta pole, future of the Auderghem viaduct, reorganisation of traffic at Bois de la Cambre - Avenue Louise - Drève de Lorraine) [Langhor, 2001: 111-112; De Vos, 2005: 37-40, 70-71; Daise *et al.*, 2009: 45-47, 51-56, 345-350; Vandermotten *et al.*, 2012: 52-55].

14. Despite their importance, these spatial questions will not be dealt with systematically. The keys to understanding them will be given through an equally fundamental perspective, i.e. that of the evolution of the forest over time. The current physical and sociocultural realities of the forest depend precisely on this evolution.

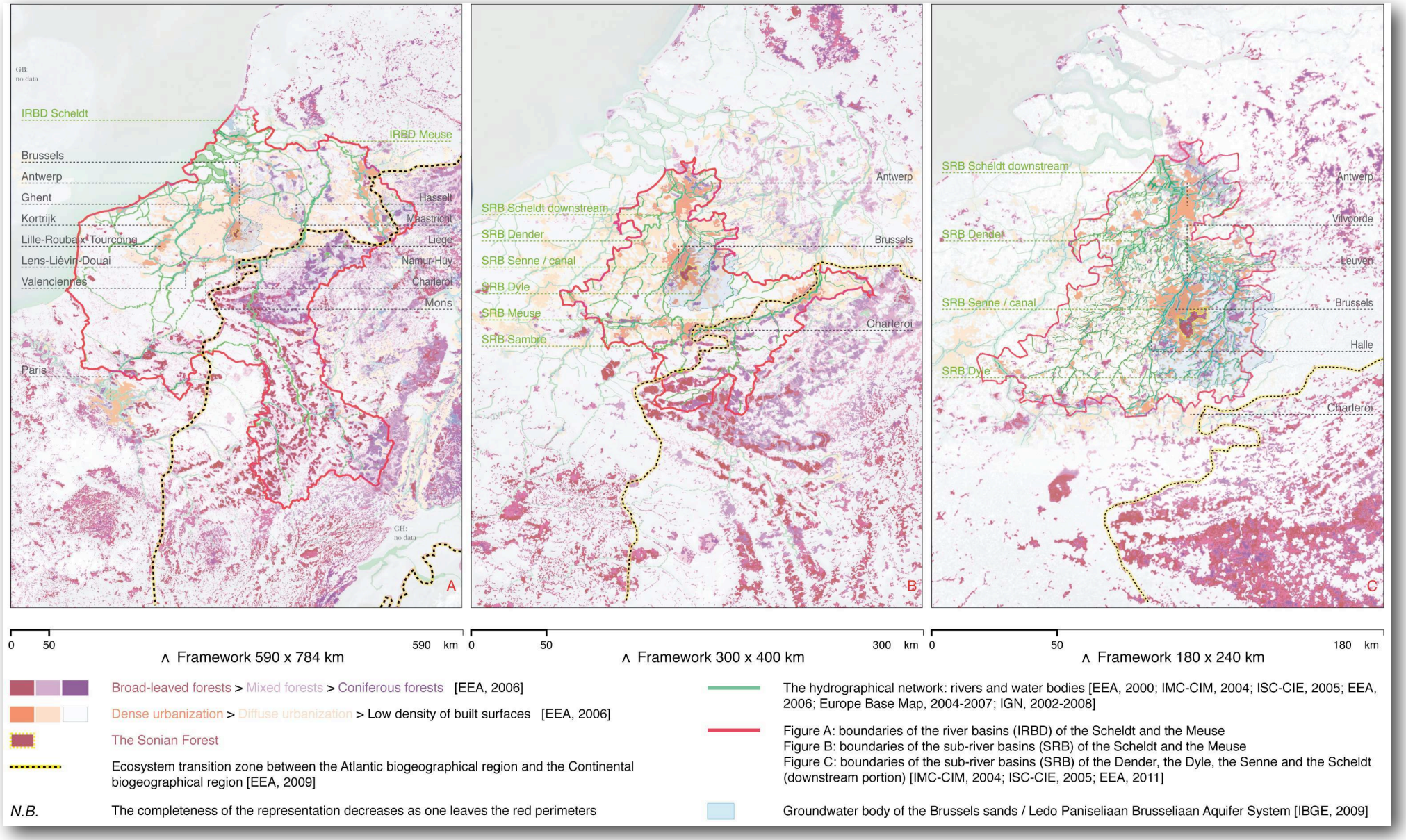
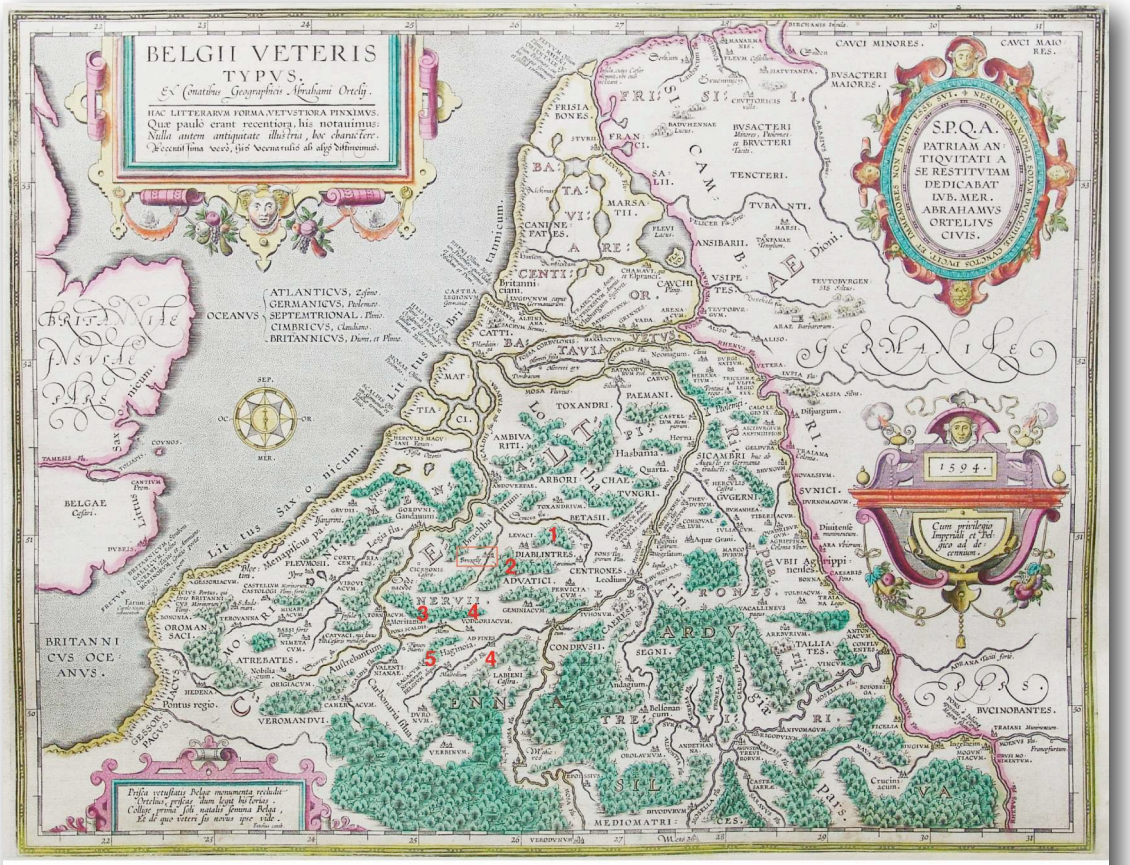


Figure 4. Three scales highlighting the spatial condition of the Sonian wooded area



∧ *Belgii Veteris Typus*, the Spanish Netherlands in the Roman period, A. Ortelius, 1624 [Ortelius, 1624 (1584)]

	Brussels
1	The *Levaca* between Leuven, Diest, Jodoigne and Tienen
2	*Sonia silva*
3	The *Cerasia silva* between Saint-Ghislain and Mons
4	The *Charbonnière* between Mons, Soignies, Braine-le-Comte, Gosselies and the Sambre, until the vicinity of Thuin
5	The Forest of Mormal located south of Mons, along the Sambre

3. The Sonian Forest plateau: an 'upstream/downstream' asymmetry in the emergence of Brussels urban reality (11th – 18th centuries)

15. In order to understand the physical reality of the area concerned, we must go back to at least[10] the Carolingian period, when a vast area called the 'coal forest' was divided up following several clearing operations. It was during this period that the name *Sonia silva* (Sonian Forest) appeared, indicating the appropriation of this area by a series of human establishments. Figure 5 provides an idea of the area of the forest before this individualisation. At the time, it covered all of the south of Brussels as well as almost all of the plateau separating the Zenne from the Dijle, including Halle Wood and Forest Wood [Duvivier, 1861: 12-13; Pierron, *s.d.*: 8-9, 12; LAFS, 2009: 10-16, 64-65, 183-184; Byl *et al.*, 2010].

16. This dividing up was synonymous with an increase in practices related to the forest. It was accompanied by an increase in forms of developed land on its outskirts, either along the existing edge, or in extensions made due to clearing for agricultural purposes or for development. Among these forms, several hamlets were established. The oldest date from the 10th century (Tervuren, Uccle, Overijse, Watermael); most of the others appeared between the 12th and 13th centuries. They were next to a large number of *censes* (land subject to quitrent)[11] situated in direct proximity of the wooded area, and from the 12th century, were near religious or seigniorial areas, some of which were located in the middle of the forest. The presence of these areas was therefore closely related to the domination of the Dukes of Brabant. The Sonian Forest was declared 'property of sovereigns' until 1794[12] [Ferraris, 1771-1778; Pierron, *s.d.*: 11-12; LAFS, 2009: 10; Jaumain *et al.*, 2009: 71; Vandermotten *et al.*, 2012: 20, 77-80, 94-100, 102-103, 139-142].

17. These elements are still perfectly identifiable on Ferraris' map (figure 6). They indicate the importance of the wooded area until the end of

Figure 5. The gradual dividing up of the 'coal forest'; situation during the Roman period

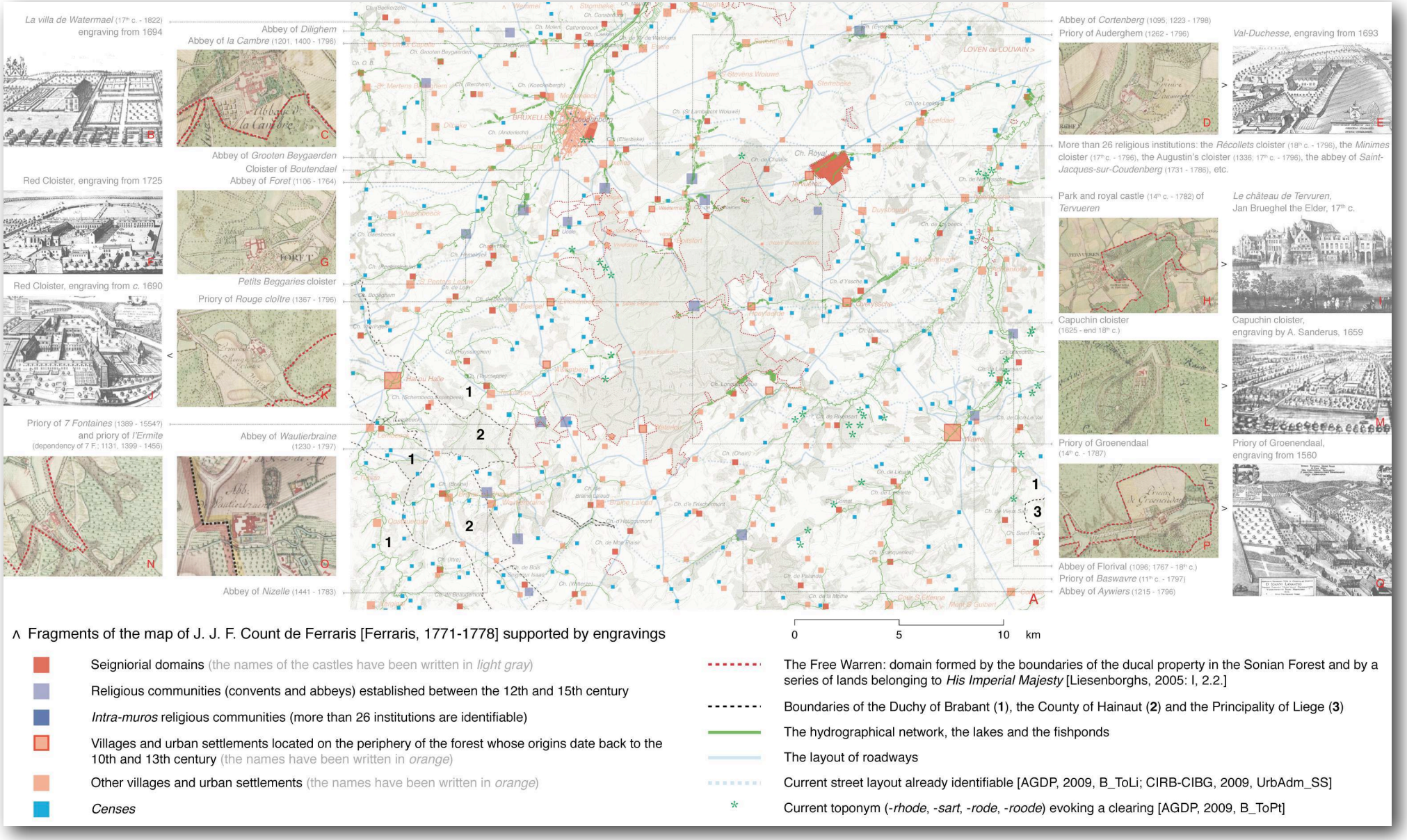


Figure 6. Spatialisation of practices and of developed land in the territory considered during the second part of the 18th century

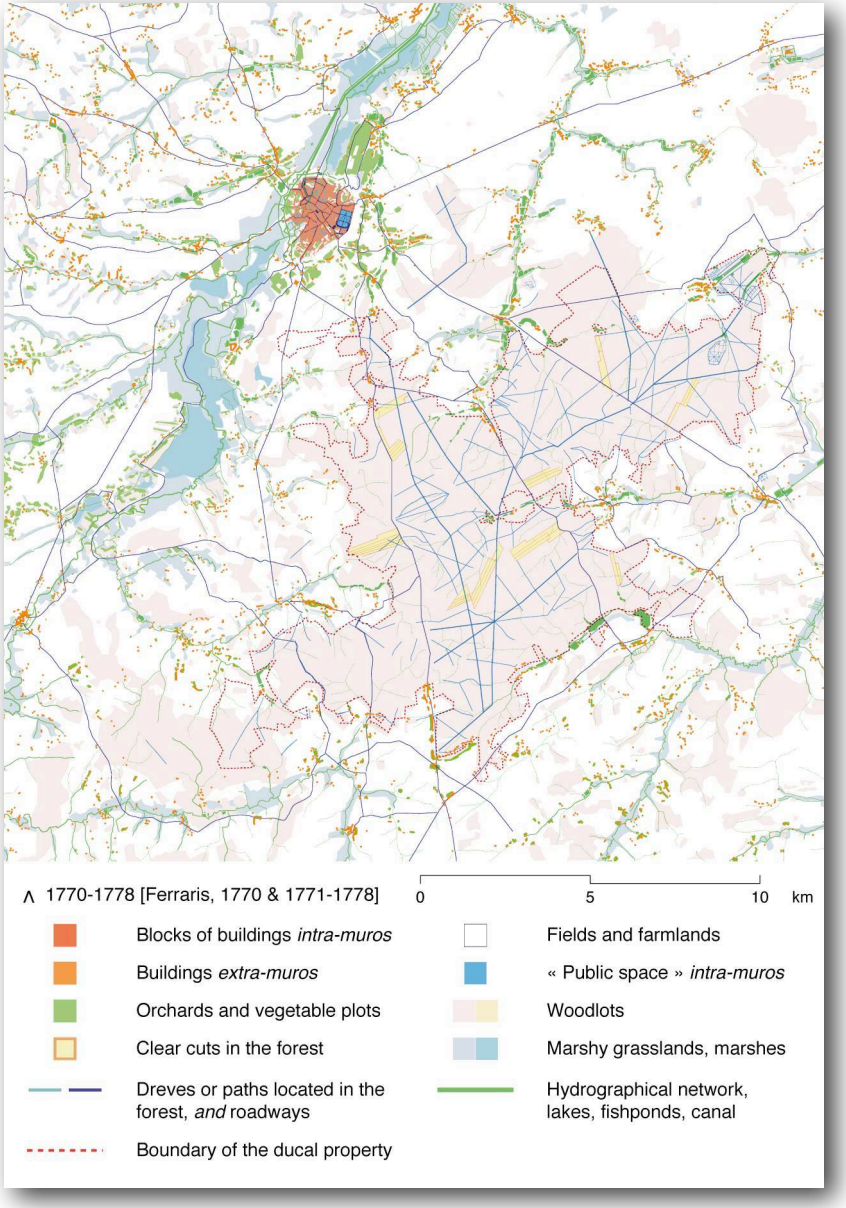


Figure 7. As an element which intervened in the power relationships between urban stakeholders, the forest caused asymmetry in terms of the distribution of territorial dynamics very early on

the Ancien Régime. For the people who lived on the outskirts – including the inhabitants of Brussels – it represented a source of fuel, construction materials and food, in addition to playing a part in agricultural practices. For the seigniorial and religious authorities, it constituted an essential source of revenue, as well as a place of recreation and pomp, where hunting activities were held [Pierron, *s.d.*: 225-233; Liesenborghs, 2005; LAFS, 2009: 10-16, 51-54; Vandermotten *et al.*, 2012: 17-20].

18. For purposes related to subsistence, production and representation, the uses which developed in the south/southeast of Brussels during this period were therefore not of the same nature as those which existed in the west and north of the city. Their spatialisation and the artefacts which they produced – road networks, buildings, parks and *warandes* (game preserves)[13] – must be considered according to three observations: as regards the collective imagination, the forest was a landscape construction[14] whose representation illustrated social practices (see figure 14); at functional level, it was a resource which was made accessible via a network of roads and drives which ran through it;[15] in terms of management, it was the property of the sovereign authority who could decide on its use [Smolar-Meynart, 1998: 33, 36-37, 118-119; Van de Kerckhof *et al.*, 2000: 274].

19. This three-sided situation is not neutral. It signifies that, for the population of Brussels as well as for the authorities who lived there, the territories outside the town were not considered to be isotropic; the borders of the Duchy of Brabant, the ties with Leuven, the Sonian Forest and the physical boundary formed by the alluvial plain of the Zenne were factors which went against purely radioconcentric territorial dynamics. In terms of proto-urbanisation, the distribution of forms of developed land to the east of the Zenne was thus determined as much by a particular geopolitical and sociocultural situation – that of a ducal forest situated upstream from an urban settlement, both of which were under the control of the same authority – as it was by the physical extension of the city from its centre outwards.

20. The forest also played a role in the emergence of certain morphological specificities of the Pentagon inherited from the Ancien Régime, for three reasons: firstly, the topography facilitated the leading of the

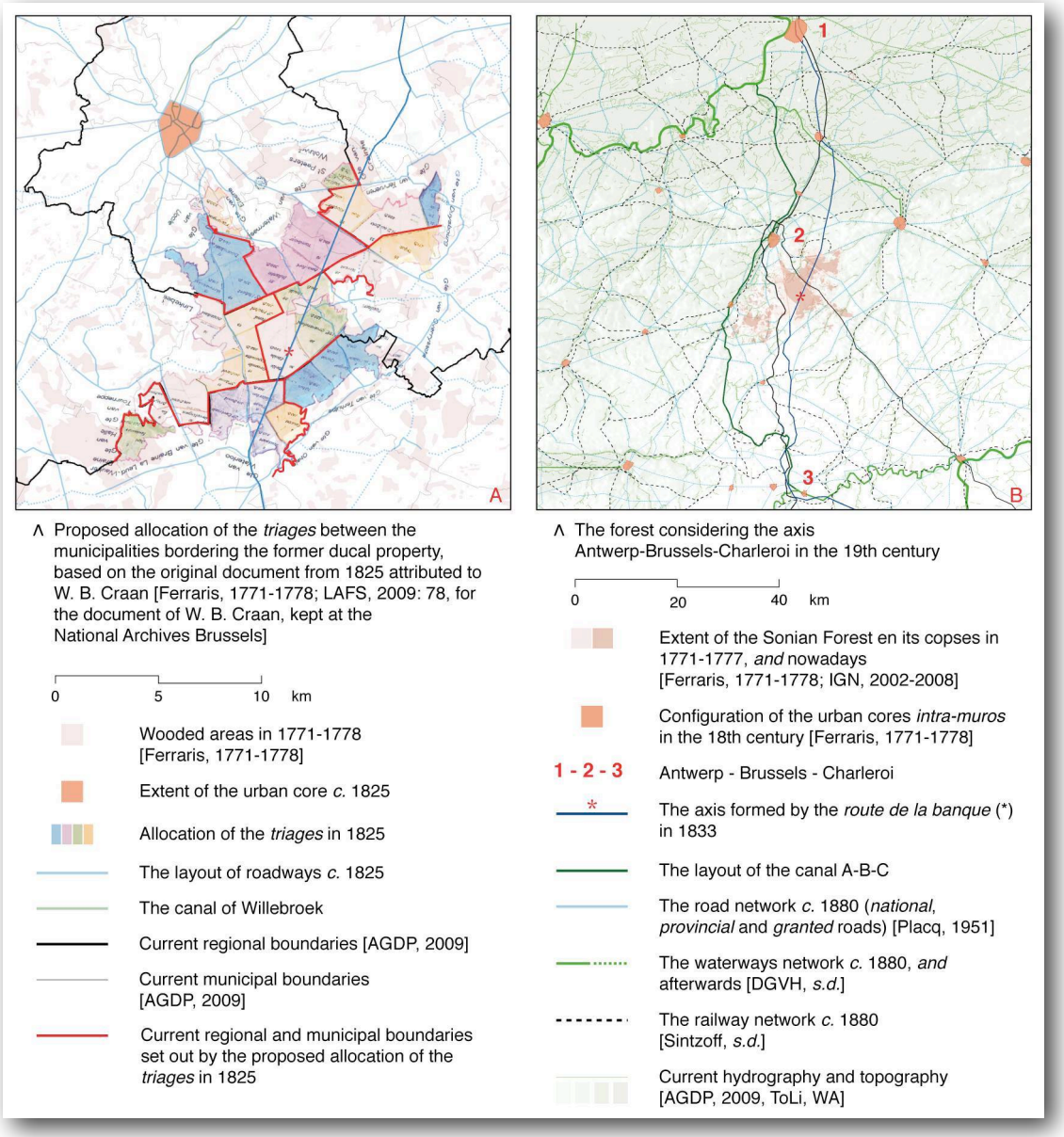
forest towards Brussels; secondly, the forest represented the very material with which the urban settlement was built (from a material, economic and political point of view); thirdly, it monopolised the access within its territory to the main network allowing the transport of this resource, i.e. the Zenne as well as the Willebroek Canal (1561). As figure 7 suggests, the development of the central urban fabric was therefore not purely endogenous; it integrated the relationships with the forest [Jaumain *et al.*, 2009: 53]. The asymmetry generated by this is suggested by place names such as *Hout kaye*, *Hooy kaye*, and *de Hout merckt Straet*, and by the continued presence of a wood market in Brussels from the 15th to the 19th century. But it is apparent above all physically in the forms of developed land. For example, figure 7 presents the relationships between the former Coudenberg *warande* (current Brussels Park) and the coppices in the northwest of the Sonian Forest, as well as the importance of uses and practices along the *walsche weg* (see notes 12, 14, 16 & 23). It also allows an evaluation of the northwest/southeast orientation of the routes inside the city – in particular the *Steenwech*[16] – organised around the hub represented by Bassin des Marchands (1561) and Bassin Sainte-Catherine (1564) for several roads linking the Sonian Forest and Willebroek Canal. In this respect, let us mention the perpendicularity of the tree felling areas with respect to these roads – an explicit sign of practices which developed between the uphill slope and the downhill slope of the valley [Fricx, 1712; Henne & Wauters, 1845: 303, 528-529; Ducpetiaux, 1847: 90; Smolar-Meynart, 1998: 33; Jaumain *et al.*, 2009: 72].

21. The role played by the forest in terms of territorial dynamics did not necessarily serve the urban authorities: the forest belonged to the sovereigns; its status was therefore not similar to that of the territories which constituted the 'Cuve de Bruxelles' (from the 13th century until 1795). This was not a negotiated resource which the city used freely – it was the object of a right of passage from the 15th to the 18th century – but rather one of the guarantees of seigniorial power. From the 14th century, the seigniorial power established several means to preserve the integrity of the wooded area and to enhance its value.[17] The forest 'was built' as much as the city itself, with its facies becoming less and less spontaneous. It was gradually marked out and sloped parallel to its property boundaries, the roads which went through it were cobbled and levelled, the composite forest systems were eliminated, trees were planted in the 'naturally' empty spaces, and the existing trees were replaced – most often by beech – in order to maximise exploitation. These transformations – which were particularly intensive from the 16th century onwards – resulted in works being carried out from the beginning of the 18th century in a forest which was highly regulated by man: the 'even-aged beech forest'. From this moment on, young beech trees were grown in nurseries (in particular on the former domain of the Rouge-Cloître), and were then planted in the forest where they were the object of artificial selection, all according to an exploitation method referred to as 'unstopped clear-cutting'[18] [Pierron, *s.d.*: 96-129, 147-168, 243-247; Mortier & Hasquin, 1997: 19-20; LAFS, 2009; Vandermotten *et al.*, 2012: 4].

22. This management method, used throughout the wooded area from 1788 until the beginning of the 20th century, homogenised the wooded area. Furthermore, it increased its surface area. Its reason for being was nevertheless economic and strategic, bearing witness to the power relationships which existed. The abovementioned notion of asymmetry was a way to translate the geopolitical reality which prevailed from the 12th to the 18th century – that of a coalition of urban stakeholders determined by two complementary and opposing polarities: the city and the forest. As suggested by centering and areas shown on many old maps [Van Werden, 1659; Ferraris, 1770; Pierron, *s.d.*: 21, 89], in terms of geographic area, this reality goes well beyond the inner city of Brussels. It shifts the centre of gravity of the Pentagon to the southeast, with its evolution directly linked to this hinterland. Thus, during the Ancien Régime, this part of the current urban area must be seen as the fruit of a territorial coproduction, rather than the product of independent stakeholders [Pierron, *s.d.*; LAFS, 2009; Jaumain *et al.*, 2009: 71-72].

4. Silent subtraction: the privatisation of the wooded area on the eve of urban expansion (end of the 18th century/beginning of the 19th century)

23. This coproduction and the relative preservation of the wooded area which it established were questioned at the beginning of the 19th century, when a political crisis placed the sovereign authority – an age-



∧ Proposed allocation of the *triages* between the municipalities bordering the former ducal property, based on the original document from 1825 attributed to W. B. Craan [Ferraris, 1771-1778; LAFS, 2009: 78, for the document of W. B. Craan, kept at the National Archives Brussels]

∧ The forest considering the axis Antwerp-Brussels-Charleroi in the 19th century

old owner of the forest[19] – in a difficult situation. In this context, the process of rationalisation of forest 'management' and exploitation begun during the previous centuries suddenly became synonymous with significant reductions in the surface area of the forest. As the authority's social status had been lowered, the forest no longer had any influence at political level, and only its financial value counted from that point onwards.

24. The premise for this change in regime goes back to 1822, when William I sold the property of the Sonian Forest to a public limited company of which he was a shareholder: the *Algemeene Nederlandsche Maatschappij ter Begunstiging van de Volksvlijt* (ANMBV).[20] Officially, this transfer of wood capital contributed to reducing the public debt incurred during the Napoleonic Wars. Unofficially, in a context of political instability, it brought the capital represented by the property belonging to a private estate back to the sovereign, until 1834, when the ANMBV – which had become the *Société Générale pour favoriser l'industrie nationale* during Belgian independence – asserted its national character. On the eve of the mechanised industrialisation of the Belgian territory and in an institutional context favouring financial precariousness, the forest therefore became dependent on a regime which was relocated with respect to Brussels, where the rationality of its configuration was purely synonymous with profit [Maziers, 1994; Corvol, 1995: 704; Kurgan-van Hentenryk, 1997 (1996): 21-26, & 1998; Tallier, 2002: 1248-1252, 1261; LAFS, 2009: 10-15, 17-18, 58].

25. This silent subtraction of the 'forest entity' with respect to Brussels dynamics deeply transformed the physical structure of the area situated to the south/southeast of the Pentagon. From 1825, it brought about an administrative division of the wooded area in order to implement the collection of a tax.[21] As shown in figure 8a, the 'triages' – pre-existing territorial areas linked to the surveillance of forest officers – were entrusted to municipalities which, until then, had bordered the former ducal property. Beyond its impact in terms of forest management (see

Figure 8 – The impacts of the change of status of 1822 on the property of the wooded area and its spatial location in the Antwerp-Brussels-Charleroi route

note 22), this administrative reconfiguration thus established the future institutional power relationships between the city of Brussels and its outskirts, on the eve of the expansion of the central urban fabric [LAFS, 2009: 77-78; Vandermotten *et al.*, 2012: 4].

26. Furthermore, the alienation of 1822 led to the creation of the Route de la Banque (1833). By crossing the forest to connect Chaussée de Charleroi and Chaussée de Malines, it formed a new route situated on the ridge line separating the catchment area of the Zenne from that of the Dijle. Contrary to the roads, this route – represented in figure 8 – was no longer intended for the Pentagon: on the one hand, it opened up the industrial activities of the region of Charleroi where the Société Générale continued to invest [Trioen, 1839]; on the other hand, it maximised the access to the southern part of the wooded area, more precisely to a series of wooded plots of land which the Société sold in large numbers, between 1831 and 1836 (before its 'voluntary nationalisation' through the repurchase of securities held by William I), to members of the business upper middle class. Figures 12b and 12c indicate in this respect the reduction in forest routes and paths in the southern part of the forest in the 19th century. Furthermore, they illustrate the acquisition of private areas in the remains of the ducal forest, in particular that of the de Meeûs family in Ohain (1833, 1836), the de Béthune family in La Hulpe (1833), the Coghen family in Uccle (Wolvendael castle, 1829), the Bischoffsheim family (purchased by the Vanderhecht widow in 1832 and resold to the said family in 1848) and the Verhaegen family (future Tournay-Solvay property) in Watermael-Boitsfort [IGM, 1975 (1858); Kurgan-van Hentenryk, 1997 (1996): 21-26, 112; Tallier, 2002: 1267-1269, 1271-1274; Verwilghen, 2006: 21-22, 70-72, 75-76; LAFS, 2009: 24; Vandermotten *et al.*, 2012: 55, 60, 124].

27. The change in status of the wooded area was therefore both institutional and spatial (figure 8). The forest – formerly linked to its nearby outskirts and in particular to the east side of the Zenne – was from then on part of the Antwerp-Brussels-Charleroi route, which was materialised by the prolongation of the canal (1832) and by the creation of the Brussels-South/Charleroi-South railway line (1843-1873). The profits generated by the sale of these areas were used to finance the canalisation of the Sambre and the port of Antwerp infrastructures [Maziers, 1994; Jaumain *et al.*, 2009: 93].

28. These extralocal spatial determining factors also deeply modified the reality *in situ*: in the short term, they completely changed the existing landscape structures, and in the long term, they directed development outside Brussels for several decades. In 1842, when the forest was returned to the Belgian state (in the framework of the financial regulation following the breaking up of the kingdom of the Netherlands), the latter recuperated only 4,386 of the 11,718 hectares of the former property belonging to a private estate (see note 21). A large part of the forest surface area had therefore been divided into plots, sold, cleared and then converted into farmland or large private properties. It was precisely these pieces of land and these properties, such as *Linthout* wood and *Mesdael wood*, *Mangelingenbosch*, *Solbosch*, *Streek Veld*, *Stockel* and *Heeghde*[22] (figure 9), as well as certain sites inherited from the Ancien Régime or purchased (in particular between 1819 and 1821) through the confiscation of church property (mainly in 1796), which nurtured the speculative logic specific to the process of urbanisation. Following the transformations which made the physical and political expansion of the city of Brussels possible,[23] these plots of land represented not only a pool of land for the young capital, but above all a financial capital to add value for the investors who supported its development [Wauters, 1855: 11; Corvol, 1995; Tallier, 2002: 1245; Jaumain *et al.*, 2009: 281; LAFS, 2009: 17, 58, 77-78; Zitouni, 2010: 70; Vandermotten *et al.*, 2012: 4-6].

5. The great coalition: the Sonian Forest at the heart of political and financial deals of the new Belgian state (19th century)

29. Under the influence of economic, political and urbanistic logics, as well as due to the very nature of programmes requiring significant land assembly,[24] the occupation of forest surface areas from 1822 by forms of developed land began in the second half of the 19th century. It was permitted by two urbanistic operations: the Léopold quarter (1837) and Avenue Louise (1861-1862). The first involved the former coppices of the forest situated near the Pentagon; the second 'sought' the former

∧ Perspective of the Pentagon and its surroundings from 1885 to 1858 [IGM, 1975 (1858); ICM, 1885]

The extent of the Sonian Forest in 1771-1777 [Ferraris, 1771-1778], *and* in 1858, except for the Bois de la Cambre (1864-1865) [IGM, 1975 (1858)]

Extent of the urban core in 1858 [IGM, 1975 (1858)], *and* 1885 [ICM, 1885]

Hamlets and villages in 1858 [IGM, 1975 (1858)]

The major programs conducted between 1850 and 1885 [IGM, 1975 (1858); ICM, 1885]

Properties confiscated from the Chruch (mainly in 1796) [Ferraris, 1771-1778]

The floodplain of the Senne and the course of the river in 1858 [IGM, 1975 (1858); ICM, 1879]

Territorial extensions of the City of Brussels (1853 and 1864) [AGDP, 2009]

The *Tracé Royal*, the layout of the Leopold and North-East quarters, and the urban form consisting of the Louise Avenue and the Bois de la Cambre in 1885 [ICM, 1885]

The layout of the canal between 1858 and 1885 [IGM, 1975 (1858); ICM, 1885]

The layout of the filter gallery and of the duct carrying drinking water from the Sonian Forest to the tank of the Leopold quarter [ICM, 1879]

Roadway and railroad layouts between 1858 and 1885 [IGM, 1975 (1858); ICM, 1885]

Figure 9. The connections between the first urbanistic developments outside the city and the plots of land from the Sonian Forest, in particular Heeghde, Solbosch, Mesdael wood, Mangelingenbosch and Linthout wood

Heeghde which had been cleared at the time, more precisely a piece of land given to the Belgian state in 1843 by Léopold I: the future Bois de la Cambre (1864-1865) [Jaumain *et al.*, 2009: 40, 112-113; Vandermotten *et al.*, 2012: 34, 35, 65, 83, 106].

30. As regards these operations, the land transfers which took place at the beginning of the century acquired a special value. Two hypotheses – presented in figure 9 – are worth mentioning:

31. In the case of the Léopold quarter, the challenges related to the political extension of the city of Brussels (mainly in 1853) met the ambitions of large middle-class families, anxious to go beyond the Maelbeek valley to enhance the value of the land which they had acquired from the Société Générale. The establishment of the new quarter near *Solbosch*, *Mesdael* wood and *Linthout* wood was not innocent. On the one hand, the shareholders of the company in charge of the development of the neighbourhood – the *Société civile pour l'agrandissement et l'embellissement de la capitale de la Belgique* (1837) – included the representatives of these families whose financial capital was sometimes made up of these very sites. On the other hand, this company – founded by Ferdinand Meeus – was a subsidiary of the Société Générale, a company which the latter managed from 1830 to 1861 and of which these families were shareholders[25] [Wauters, 1855: 11; Witte, 1969: 6-47; Kurgan-van Hentenryk, 1997 (1996): 26-36; Tallier, 2002; MRBC-DMS, Berckmans & Genon, *s.d.*: 9, 11; Jaumain *et al.*, 2009: 91, 112, 218].

32. In the case of Avenue Louise, beyond the real estate operation whose value was enhanced by the creation of Bois de la Cambre and its promenade, it was an occasion for the city of Brussels to acquire a rare and contested resource with respect to galloping urbanisation, i.e. the drinking water present in the ground of the Sonian Forest. The political annexation of the avenue and the park in 1864 were thus followed by the first water collection in the Sonian Forest in 1873 (law of 8 June 1875) [ICM, 1879; Ranieri, 1973: 31-33; Pierron, *s.d.*: 8-9; MRBC-DMS, Douillet & Schaack, *s.d.*, a & b; LAFS, 2009: 197; Jaumain *et al.*, 2009: 91].

33. More than the first urbanistic tools[26] [Zitouni, 2010: 122-125, 134-

136], and behind the arguments linked to the landscape and sociocultural value of the forest – as was the case during the creation of Bois de la Cambre – the political and financial interests of a limited number of protagonists therefore appeared to direct the development of the urban fabric in the 19th century. These interests – determined by the land assets acquired through the sale of the Sonian Forest – may be seen as factors which reinforced the geopolitical asymmetry which had existed several centuries earlier. The city and the forest were no longer opposing polarities in power relationships, but rather two elements which served the intentions of a coalition of hegemonic stakeholders who had helped themselves to a geographic area which went beyond the physical boundaries of the urban fabric. It is therefore not surprising that this asymmetry was evident in the spatial distribution of the developed land outside the city, which had a stronger presence to the south/southeast of the Pentagon until the middle of the 20th century (figure 11a) [Dejemeppe *et al.*, 2012: 21]. Furthermore, inasmuch as it involved attracting creditworthy buyers to the former edges of the wooded area, it is likely that it asserted conclusively the process of social dualisation which characterises Brussels today [Van Hecke *et al.*, 2009: 153-155, 170-171].

34. In reality, these hypotheses were first confirmed by the northeast extension (1875) of the Léopold quarter, by the establishment of middle-class populations from Ixelles and Saint-Josse in the Maelbeek valley and by the major roads built by Georges Brugmann to enhance the value of land in Saint-Gilles, Forest and Uccle. It was then corroborated at the turn of the century by the movement of middle-class residential homes to the north/northwest edge of the forest and by the gradual urbanisation of the former *Heeghde* (Langeveld, Vert Chasseur), *Linthout* (George Henri neighbourhood), part of the *Mesdael*, and the upstream part of the Woluwe valley (Watermael-Boitsfort, Woluwe-Saint-Pierre, Woluwe-Saint-Lambert) [MRBC-DMS, 2005-2007; ICM, 1885; ICM, 1879; ICM, 1904; Ranieri, 1973: 66, 70; MRBC-DMS, Herla & Deschaumes, 2007; Jaumain *et al.*, 2009: 43, 196, 218, 285, 357-359, 363; Zitouni, 2010: 53-96].

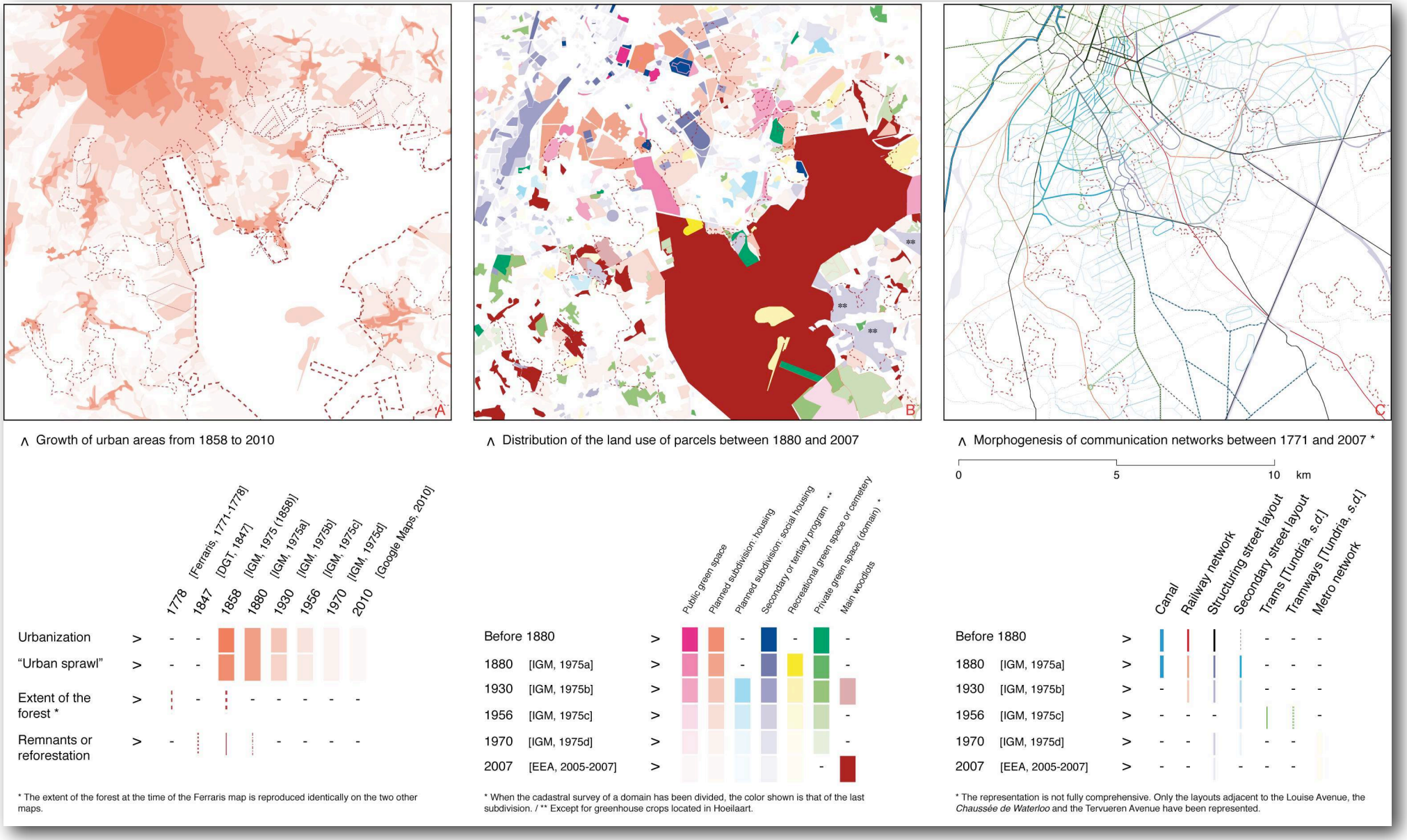
6. Appropriation of outskirts 'on the outskirts': Sonian Forest land and the productivist system elite (end of the 19th century – 20th century)

35. At the beginning of the 20th century, the major roads in the Léopold quarter and Avenue Louise – fortified by these first establishments – were transformed into true development priorities. Within a few decades, they connected the central urban fabric with the land with development potential situated on the outskirts of the wooded area (figures 10, 11 & 12). This change was deeply influenced by the aims of Léopold II in terms of planning and real estate promotion (figure 15). Let us also mention that it also took advantage of the historical location of roads, the theories of garden cities,[27] international exhibitions (1880, 1897, 1910), the railway and tramway network (extended between 1869 to 1952), and the emergence of forest tourism among large sectors of the population [Ranieri, 1973: 21, 24, 71, 88, 112, 343, 353-356; Jaumain *et al.*, 2009: 39, 90-91, 98, 286, 306; LAFS, 2009: 36-37; Zitouni, 2010: 220-223; Vandermotten *et al.*, 2012: 20-28].

36. As regards the abovementioned graphic documents, the main lines of this change may be summarised as follows:

37. A first route,[28] in the east, established the densification of upper parts of Schaerbeek and Etterbeek around Rue de la Loi, Avenue de Cortenberg and Avenue d'Auderghem. That of the two Woluwes, Stockel, Kraainem and Tervuren was then begun via Avenue de Tervuren through the forest (1896-1899). Beginning at the Royal Park (1775-1780), it joined the northeast part of the forest via Avenue de Tervuren – more specifically the royal area of Tervuren – and it joined several sites with a monumental and recreational vocation: the Cinquantenaire (1888), the parks – Woluwe, Parmentier and Étangs Mellaerts (1887-1899, 1906) – and the Ravenstein golf club (Belgian Royal Golf Club) [Ranieri, 1973: 77-98, 124; Jaumain *et al.,* 2009: 302-304; Vandermotten *et al.*, 2012: 106, 107].

38. A second route,[29] in the southeast, led to the urbanisation of Ixelles and Saint-Gilles around Avenue Louise. It then led to that of Auderghem, Forest, Uccle, Watermael-Boitsfort and La Hulpe via two operations: on the one hand, its prolongation towards Avenue de Ter-



∧ Growth of urban areas from 1858 to 2010

∧ Distribution of the land use of parcels between 1880 and 2007

∧ Morphogenesis of communication networks between 1771 and 2007 *

* The extent of the forest at the time of the Ferraris map is reproduced identically on the two other maps.

* When the cadastral survey of a domain has been divided, the color shown is that of the last subdivision. / ** Except for greenhouse crops located in Hoeilaart.

* The representation is not fully comprehensive. Only the layouts adjacent to the Louise Avenue, the *Chaussée de Waterloo* and the Tervueren Avenue have been represented.

Figure 10. Three views on the morphogenesis of the area considered, from the end of the 18th century until the 21st century

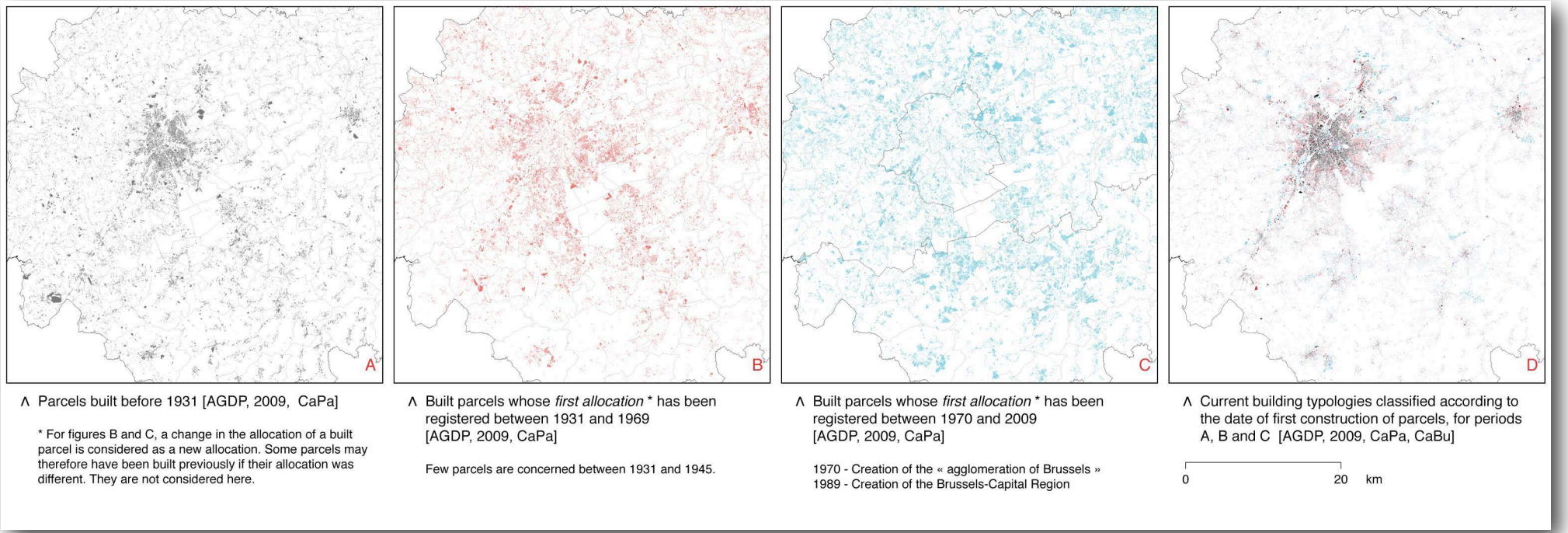


Figure 11. The south/southeast process of diffusion of the residential environment during the 20th century

vuren, with the creation of Avenue de la Vénerie, Boulevard du Souverain (1901-1910) and Avenue des Nations (1922); on the other hand, the establishment of by-road W to Braine-l'Alleud and Wavre,[30] and the asphalting of Drève de Lorraine (1925). In the same way as in the east, these operations were once again polarised by part of the forest: Bois de la Cambre [Ranieri, 1973: 70, 103-113; MRBC-DMS, Herla & Deschaumes, 2007; MRBC-DMS, Douillet & Schaack, *s.d.*, a, b & c; Jaumain *et al.*, 2009: 315; LAFS, 2009: 36-37].

39. By establishing a direct connection between the Pentagon, the boulevards of the ring and the historical location of roads (Chaussée de Waterloo, Chaussée de La Hulpe, Chaussée de Wavre and Avenue de Tervuren), these two routes eventually integrated the hamlets which were historically located on the outskirts of the forest into urban dynamics (see figures 7 & 10a). Furthermore, they played a special role for the ruling classes. The continuity which the two avenues established between the Tracé Royal,[31] an extension of Rue de la Régence (1927) (figure 9), and the drives in the wooded area – which were open to car traffic[32] – made a north-south crossing of the city possible, from the area of Laeken to the east and south edges of the forest, via a succession of tree-lined boulevards which skirted round the working-class neighbourhoods of the Pentagon. In the long term, these routes established a territory[33] which was historically dedicated to the 'elite'. This secured the land acquisitions of these stakeholders – in particular those of Léopold II, whose properties are presented in figure 15. Furthermore, they inaugurated new relationships with the central urban fabric, which was from then on 'avoided', both in terms of practices as well as from a morphological point of view. The establishment of the racecourses in Boitsfort (1875) and Groenendael (1888), and the Ravenstein golf club (1904-1906) were revealing in this respect [Ranieri, 1973: 77-98, 101-

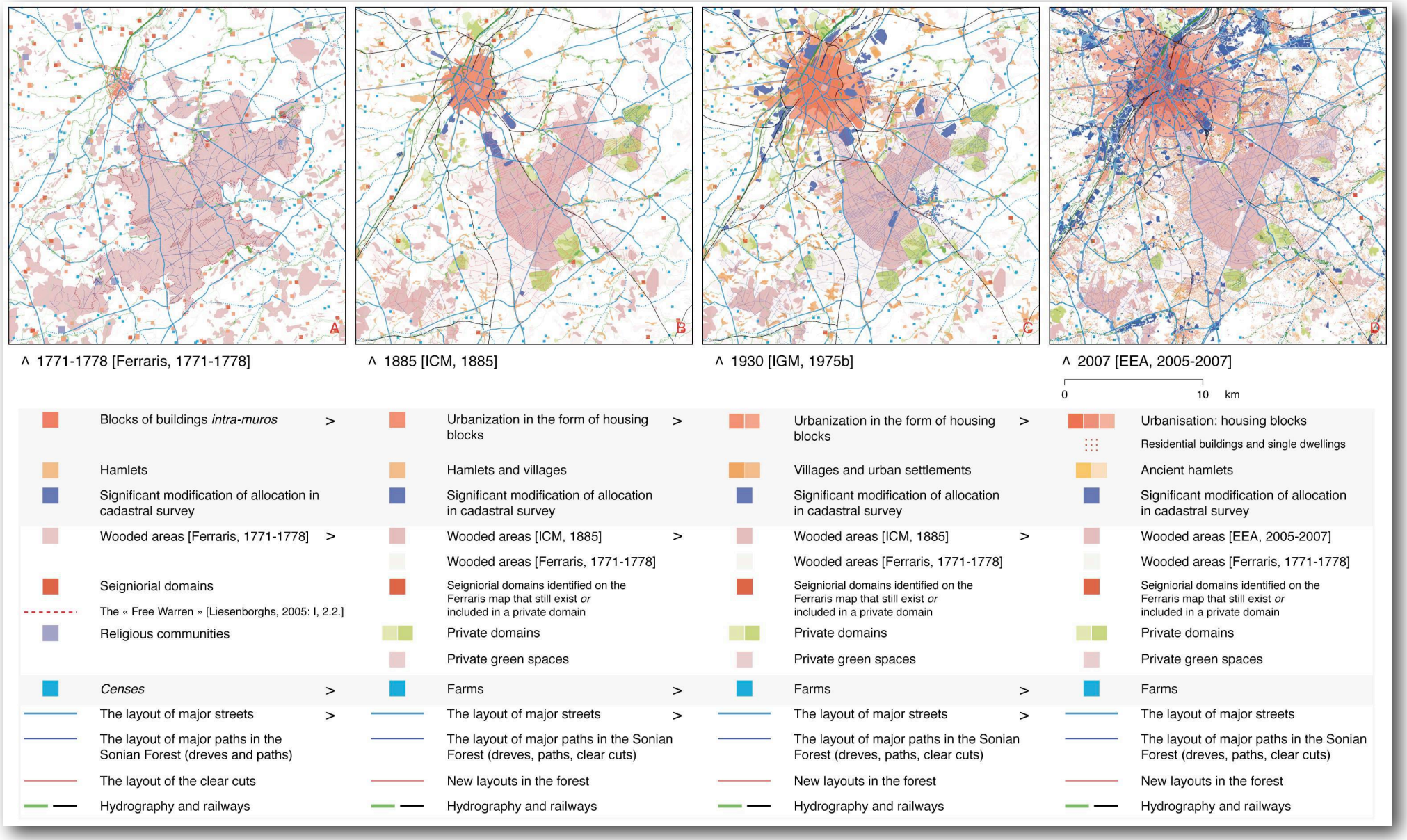
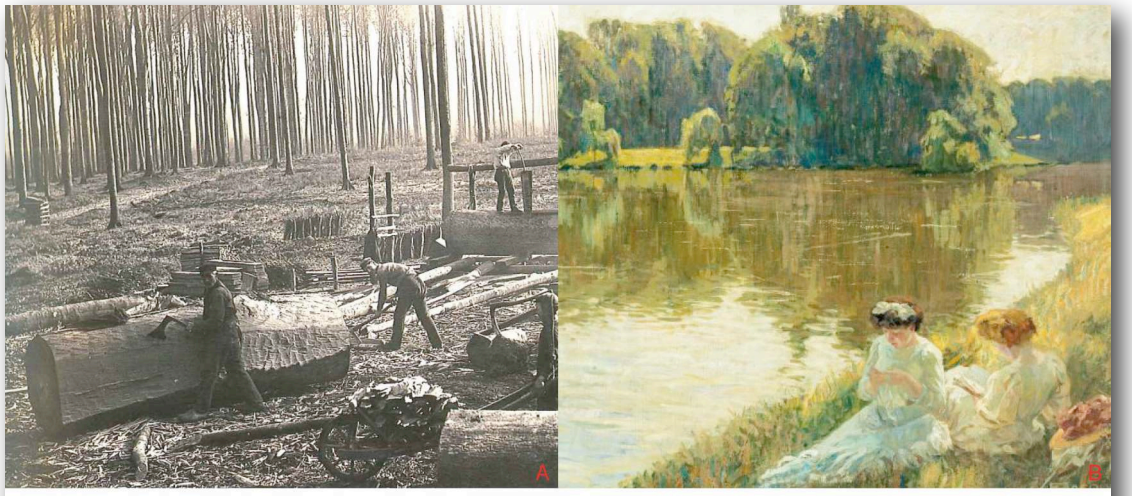


Figure 12. Synthesis of morphogenesis of the area considered, from the end of the 18th century until the 21st century

102; Pierron, *s.d.*: 12, 168-171; Verwilghen, 2006; Jaumain *et al.*, 2009: 83, 154; Vandermotten *et al.*, 2012: 20-23, 43].

40. In the 20th century, the two abovementioned radial components therefore had a major influence on the nature of the territory and on the way it grew in density. As both causes and consequences of the south/southeast movement of diffusion of the residential environment, their impact was the result of a three-sided situation. At sociocultural level, they responded to the desire to be close to 'nature', which was felt to be healthier and more comfortable than the urban centre (which was congested and poor). This 'nature' was partly embodied in the forest landscape. At economic level, they made the vast pieces of land which had been sold during the previous century by the Société Générale[34] accessible and appealing. At political level, they were directly in keeping with post-war Fordism favouring the creation of single-family housing estates and large housing developments on the outskirts of the urban centre.[35] Beginning in 1950, the major housing development operations – mainly those devoted to single-family dwellings – thus went beyond the current regional boundaries, but still on the outskirts of the Sonian Forest. This irremediably created an asymmetrical distribution of forms of developed land in the urban area (figures 11 & 12), often coupled with a difference in social status of the populations [Dubois, 2005; Cassiers & Denayer, 2009; MRBC-AATL *et al.*, 2010a, b & c; Dejemeppe *et al.*, 2012: 22-25].



∧ *Pit sawyers and shapers of wood in the late 19th century*, photography for the International Exposition of 1897 in Tervuren, Administration of Waters & Forests, © Les Amis de la Forêt de Soignes asbl [LAFS, 2009: 55]

∧ Reproduction of the work of art *Repos au parc de Tervueren* (Emile Jacques, 1900), published in the exhibition catalogue intitled *Les peintres de la forêt de Soignes*, by the Ixelles Museum in 2009, © Vincent Everarts photography

Figure 13 – Illustration of the change in the way the forest was viewed during the process of urbanisation

7. The cultural determining factors of naturalisation (end of the 19th century – 20th century)

41. While the forest determined the evolution of urban reality, in return the latter had a deep impact on the construction of the forest landscape and its management. The physical configuration of the forms of developed land led to modifications in the flora and the forest soil, and therefore in the water regimens associated with them. City practices also modified the way the forest was viewed [Larrère, 2009 (1997): 203-206; IBGE *et al.*, 2009: 31; Van Hecke *et al.*, 2009: 167; Roland, 2011a: 56]. For example, while it was managed for production and profit purposes in the 18th and 19th centuries, in 1907, the gradual colonisation of its edges tolled the knell of unstopped clear-cutting, with the large clearings perceived by walkers as being 'unsightly' – in particular the landscape painters of the Rouge-Cloître and Tervuren [LAFS, 2009: 51-61, 181-209; Vandermotten *et al.*, 2012: 99].

42. A new transformation of the wooded area and its representation took place alongside urbanisation (figure 13). It was characterised by the 'construction' of a 'more natural' forest, i.e. more picturesque, more irregular, less dense and more diversified, with areas of spontaneous sowing being reintroduced. This transformation was begun in 1886 with the introduction of progressive group felling of a selective nature,[36] and then was applied to the entire wooded area in place of the former management method. It led to a decrease in forest exploitation – as the planting method no longer lent itself to this – as well as to a questioning

of the cathedral-like beech forest itself, with the lapse of time between felling set at 100 years in 1788, 120 years in 1886, 180 years in 1975 and 200 years in 2003. The suppression of large-scale felling and the resulting delay of the age of felling led to the ageing of the beech forest [INBO, 2011: 22-23]. It therefore tended to diversify spontaneously, to the detriment of the homogeneous and regular facies established in the 18th century. In this respect, the comparison of the routes in the forest in 1930 and 2007 (figures 12c & 12d) illustrates the shift from exploitation to recreation [Daise *et al.*, 2009: 356-357; LAFS, 2009: 33-42, 51-61, 105, 213-218; Vandermotten *et al.*, 2012: 20-25].

43. This transformation was closely linked to groups of stakeholders – in particular the Touring Club (1896) and the Ligue des Amis de la Forêt de Soignes (1909) – whose positions and aims were explained by the evolution of the social and political situation: firstly, the implementation of universal suffrage and the '1944 social pact'; and secondly, the community tensions and the process of regionalisation of the country. But it must also be considered alongside the social dualisation which accompanied the asymmetrical development of forms of developed land in the 20th century. Thus, in 1959, when a listed status prevented any reduction in the forest surface area inherited in 1842 (i.e. 4,386 hectares, in other words the former ducal property reduced by about 7,000 hectares of forest), it of course represented an ecological challenge, but perhaps it was also the sign of a (physical and cultural) appropriation of the forest by the people who lived in its outskirts. Although this listing was established for preservation purposes, at legal level, it above all legitimised the privatisation of the forest edges which took place during the 19th and 20th centuries, preventing any public intervention in terms of their future and their management. The 'naturalisation' of the wooded area begun during the previous century therefore played a special role: beyond the concerns regarding the landscape, aesthetics and the environment, it above all contributed to reinforcing the difference in status between the wooded area and its privately owned edges; it redefined the boundaries of 'the city' and 'nature' within public action [Secchi, 2006 (2000): 23; Corvol, 2005: 279-287; Cassiers & Denayer, 2009; LAFS, 2009: 11; Vandermotten *et al.*, 2012: 20-26; Vandekerkhove *et al.*, 2007, 30-31].

44. Afterwards, with the regionalisation of competences in the areas of the environment, urbanism and land use planning – which, from 1974 to 2001, authorised more and more differentiated policies in these areas in the territory of the Regions [Vandekerkhove *et al.*, 2007] – this change of status became more pronounced, to the point that in certain respects it became synonymous with a disinterest in the role of the forest in the construction of urban reality. It was considered as a 'natural oasis' whose tripartite management since 1983[37] was confined to three Natura 2000 administrative areas, each under the remit of a regional authority' [LAFS, 2009: 73-79]. The projects and the studies which focused more or less on the wooded area led to a multiplication of partial and biased interpretations, in particular when their only referents were the areas of political action in the evaluations which they carried out. Three types of pitfall may thus be pointed out: the methods of evaluation and the operational frameworks of management tools [GRBC, IBGE *et al.*, 2003: 55-56, 100-109; Declercq, 2008; Daise *et al.*, 2009: 289-392; VR, 2009a: 18-21, & 2009b], the absence of a coordination of plans – in particular those determining land use [GW, 1977-1987; VR, 1972-2002; GRBC, 2001; MRBC-AATL *et al.*, 2010a] – and the lack of interest in the physical and historical reality of the territory in terms of representation [AGIV, 1996-2000; AGIV, 2000; VR, 2008: 30-35, Kaart 5; Dejemeppe *et al.*, 2012: 73-75]. The first two lie within the scope of institutional determinism; the third, within that of the normativity of reasoning.

1 *De maand maart - Het vertrek voor de jacht vanuit het hof van Brussel*, kopie van het tapijt De Jachten van Maximiliaan (*c.* 1533), Bernard van Orley (*c.* 1488-1541)

2 *De Dans der Bruid* (1566), Pieter Bruegel de Oude (1526/1530-1569)

3 *Uitzicht van de Ter Kamerenabdij bij Brussel* (1609), Denijs van Alsloot (1570-1628)

4 *Feest aan de Diesdelle* (1616), Denijs van Alsloot (1570-1628)

5 *De Aartshertogen op wandel in het park van het paleis* (*c.*1621), Jan II Brueghel (1601-1678)

6 *Het Zoniënwoud met marktkramers* (*s.d.*), Lodewijk de Vadder (1605-1655)

7 *Uitzicht van Val Duchesse* (*s.d.*), Jacques d'Arthois (1613-1686) - David II Tenier (1610-1690)

8 Achterkant van het paleis op de Koudenberg gezien vanaf de Warande (*s.d.*), Van der Stock (17e s.)

9 *Klopjacht in het Zoniënwoud* (1793-1797), « Tijdsgebeurtenissen », P. A. J. Goetsbloets

10 *Boerderij St-Hubert Langhendries. Kleine Hut. Houthakkers in het Zoniënwoud* (1900-1930)

11 Uitzicht op de *Louizalaan* (1864) in 1920, Dexia Bank Collectie

12 *De Landschapschilderes* (1892), Jean Degreef (1852-1894)

13 Affiche van de Wereldtentoonstelling te Brussel in 1897, H. Privat-Livemont (1861-1936)

14 Affiche van de Wereldtentoonstelling te Brussel in 1910, Henri Cassiers (1858-1944)

15 *Ex-libris van de Vrienden van het Woud. Ik bescherm: bescherm mij* (*c.* 1911)

16 Uittreksel van een videoverslag uitgevoerd in het woud ter gelegenheid van de ondertekening van de intentieverklaring voor de interregionale Structuurvisie Zoniënwoud door de drie bevoegde ministers, 10.11.2008

Figure 14 – The staging of the forest – a theatre for the evolution of social practices

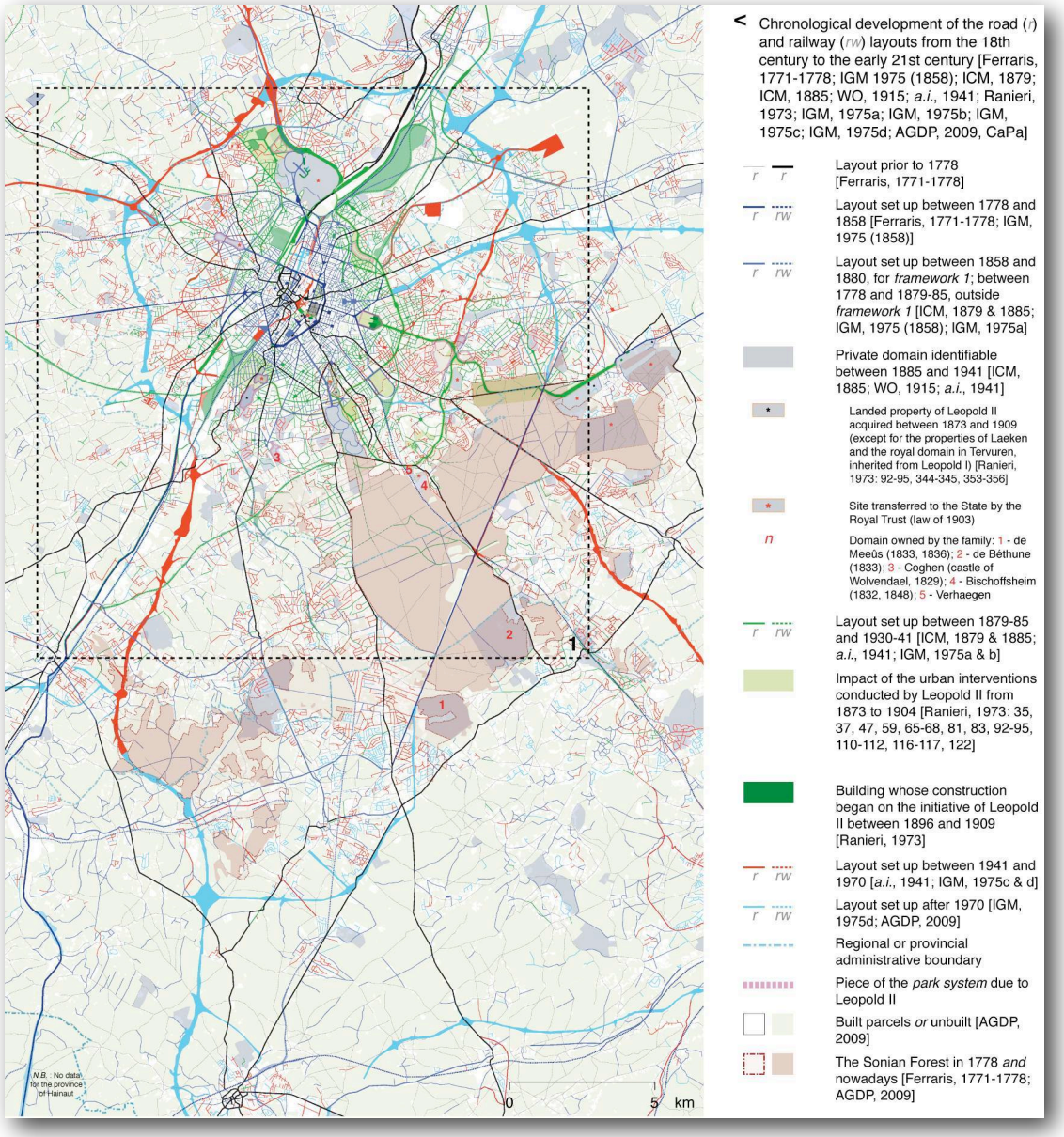
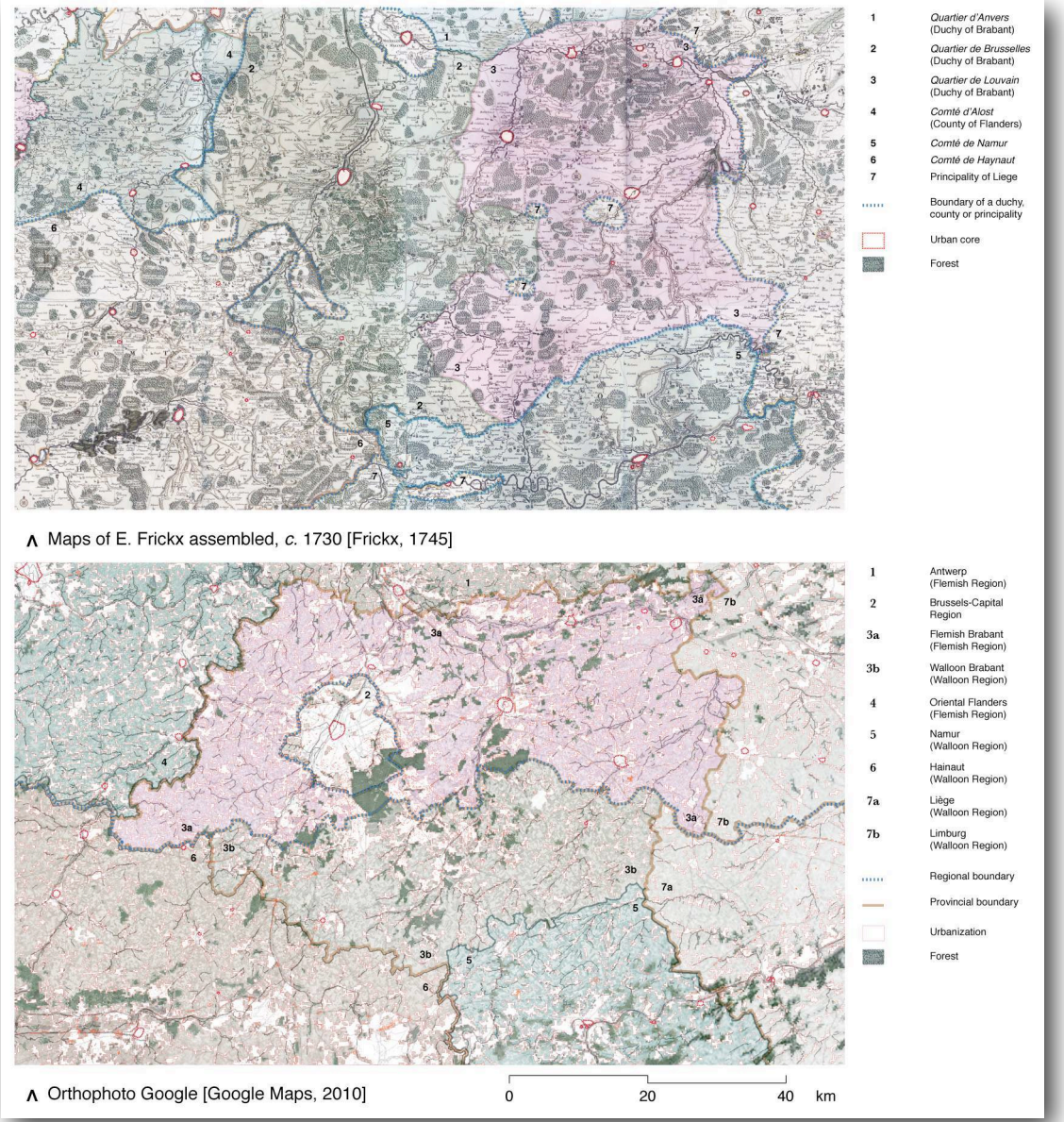


Figure 15 – The emergence of the urban area over three centuries and the role played by Léopold II's interventions (1865-1896)

Conclusion: the lessons drawn from a 'thick description', bringing together the forest and urban reality

45. The south/southeast of the Brussels urban area cannot be summarised as being the radioconcentric expansion of the central fabric [Eggerickx & Poulain, 1990; Thisse & Thomas, 2010: 16], or as being a 'material expansion of the urban area beyond an initial boundary' [Lussault, 2007: 333]. It is rather the sum total of nuclear developments which were historically polarised by the forest in an endeavour by several stakeholders to enhance its value at sociocultural, political and economic level. This increase in value took place through spatial and urbanistic interventions which were conceptually associated with 'the city'. But it was always based on the control of a geographic area which went well beyond the latter. With the landscape and the physical structures associated with this area – i.e. the forest – having determined the urban forms, it is no longer entirely appropriate to speak of 'outskirts' or 'periurbanisation'. Technical progress and the democratisation of transport associated with industrial modernity are not enough to explain the asymmetrical distribution of developed areas – an asymmetry present despite the relatively isotropic network made up of railway networks at the beginning of the 20th century[38] [Secchi, 2006 (2000): 74-75; Lussault, 2007: 333-337].

46. Urban reality and the forest ecosystem were not 'unities with their own balance and self-regulation' [Campbell & Reece, 2007: 1322-1325]. Everywhere at a distance of 1 to 2 km beyond the current forest conservation areas, more or less old forest remains mixed with artefacts, while within these areas, the structure of plantings differed from the edges towards the central parts. How was it possible to guarantee the validity of environmental policies which were not linked to urban practices, apart from proving that acidification, eutrophication, the loss of ecotopes, desiccation, compaction and insularisation were problems which were endogenous to the forest [Latour, 1997 (1991): 10-14, 192-197; Larrère, 2009 (1997): 139-164, 172-183; Defloor *et al.*, 2000: 25, 30; AGIV, 2000-2001; Langhor, 2001: 113-114, & 2010: 13-14; Feltz, 2003: 24; AGIV, 2005; Lussault, 2007: 19-20; INBO, 2009: 133-137]?



∧ Maps of E. Frickx assembled, *c.* 1730 [Frickx, 1745]

∧ Orthophoto Google [Google Maps, 2010]

47. Practically speaking, if the city and the forest are not independent entities, and if the emergence of one depends on the future of the other (figure 16), it is therefore necessary to indicate the gaps which exist between their physical reality and the sectoral character of concepts and representations associated with them. Among these, spatial definition operations require special attention. By determining 'established relationships between a geographically defined area and the social group which occupies it' [Corboz, 2001 (1983): 254], they determine not only what is planned and what is left for others, but they also establish the spatiotemporal and epistemological frameworks of the problems studied [Lussault, 2007: 81, 82]. The establishment of new views and tools [Corboz, 2001 (1983): 254] requires a descriptive operation, allowing an 'understanding of past, present and future profiles of use' [Campbell & Reece, 2007: 1322], and therefore an integration of the physical and landscape structures into the planning of this use [Secchi, 2006 (2000): 113-133; Schmithüsen, 1999]. This description – following the example of landscape ecology and anthropology – is not exclusively quantitative; it also involves *in situ* observation and induction [Campbell & Reece, 2007: 1175-1176, 1322-1323]. It must integrate the historical and systemic dimension of the territory and thus avoid its bureaucratisation. At academic level, 'describing' involves an ethical dimension, i.e. that of rendering common challenges [Stengers, 1995 (1993); Larrère, 2009 (1997): 219-234; Hache, 2011]. Although they are considered as peripheral to managed structures, they nevertheless constitute the basis of sustainable development [Corboz, 2001 (1983): 203; Secchi, 2006 (2000): 63; Feltz, 2003: 179-181].

Figure 16. Evolution of the geopolitical configuration of the territory and its physical reality over three centuries

This article is part of current doctoral research. Its support committee includes professors David Vanderburgh (director), André De Herde (co-director), Bernard Declève and Bernardo Secchi, as well as Serge Kempeneers, director of the Espaces Verts division at Bruxelles Environnement. The text is based on a research report entitled La forêt de Soignes, pour un état du lieu *[Roland, 2011a], written by the author and available on request. Several investigations have been carried out* in situ *in the framework of this report. A first version of the article was submitted on 30 September 2011. It was revised in collaboration with the Brussels Studies editorial team. Michel Maziers also made some corrections. The structure of the final version received the input of J.-P. Peemans within the framework of the Séminaire de recherche approfondie : Bruxelles en projets organised in the framework of the École doctorale en développement territorial (Louvain-la-Neuve - Brussels, spring 2012).*

Notes

[1] The word 'territory' must be understood here in the sense of 'socialised space' [Baud *et al.*, 2008: 504]. In addition to having a spatial dimension, this term therefore also has a historical dimension. This refers to the notion of palimpsest proposed by André Corboz: the territory is the 'result of a very long and slow stratification which must be understood in order to intervene' [Corboz, 2001 (1983): 212-228, 252-256; Secchi, 2006 (2000): 13-19, 135-144; Roland, 2011b].

[2] The challenge here is not to associate a precise spatial definition with this term. We refer to Dujardin *et al.*, 2007, and Van Hecke *et al.*, 2009 (pp. 75-76, 108), for an attempt to define the 'operational urban area', the 'urban region' and the 'urban residential complex'.

[3] One may object that these pitfalls are only related to representation. However, '[re]presenting the territory requires an understanding of it. [, etc.] Representation is not an exact copy, but is always a construction. A map is drawn in order to understand first and to act next' [Corboz, 2001 (1983): 221; Caron, *s.d.*: 5-6; Schmithüsen, 1999].

[4] An ecotone is an 'area of transition between one type of habitat or ecosystem and another (e.g. the transition between a forest and a prairie). [, etc.] An ecotone has its own physical conditions, which differ from those on either side of it' [Campbell & Reece, 2007: 1322, G-18].

[5] The individualist hypothesis, formulated by H. A. Gleason, is a 'concept which is related to the structure of a plant community and which explains that a plant community is an accidental grouping together of species which occupy the same territory simply because they have the same abiotic needs, in particular as regards temperature, precipitation and soil.' This hypothesis 'indicates that the communities should generally be without clear geographic boundaries, as each species has its own (i.e. individual) distribution along the ecological gradient' [Campbell & Reece, 2007: 1277, G-28].

[6] The term 'ecological' refers to: what is based on the 'academic study of interactions between organisms, on the one hand, and organisms and their environment, on the other hand' [Campbell & Reece, 2007, Glossary: G-18, and p. 1173].

[7] The term 'suburban forest' is widely used in the literature [Maziers, 1994; GRBC, IBGE *et al.*, 2003; Forrest & Konijnendijk, 2005; LAFS, 2009]. Given the geographic location of the wooded area and the semantic distinction which the term 'suburban' establishes between urban reality and the forest, it seems less appropriate.

[8] 'Bruxellien, Brussels (formation): middle Eocene sand formation (45 million years ago), highly developed in Brabant to the east of the Zenne. Bruxellien sand is characterised by intercalations of nodules or sandstone beds, "Gobertange stone"' [Vandermotten *et al.*, 2012: 147].

[9] '[, etc.] [The] Lédo-Panisélien Bruxellien aquifer [, etc.] contains the deepest sandy part of the Maldegem, Lede, Brussels and Aalter formation, and the upper sandy part of the Ghent formation. [, etc.] The Brussels sand represents the most represented unit' [VMM, 2008: 20, author's translation and interpretation]. In the framework of the 2000/60/EC directive, the quantitative state of the aquifer is qualified as *good*. Its chemical state is qualified as *average to mediocre* [EC, 2000, for the definition of the terms in italics]. A large amount of drinking water is collected from it, however. This poor state is partly explained by the fact that the body of water is in an 'area of direct resupplying' due to the permeability of the sand. In other words, 'the infiltration and resupplying of the layer takes place throughout the entire surface area of the body of water' and it 'is in contact with all of the water which runs through its area' [DGARNE, 2006: 7, 9; IBGE *et al.*, 2009: 21]. All of the types of land use in this highly urbanised area therefore directly determine the water quality. Excessive nitrate and pesticide levels have been observed in particular due to the leaching of soil by runoff water in the Walloon part of the system, which is used more for agriculture [DGARNE, 2006: 23, 24]. From the viewpoint of these phenomena, the presence of the Sonian Forest and its edges – a sort of large-scale drain – is a determining factor. Furthermore, the biggest piezometric heads in the aquifer system are seen in the Flemish part of the Sonian Forest [VMM, 2008: 53, 54]. This presence is also important for the underlying confined aquifer, associated with the Craies du Brabant. Its direct resupplying area is located on the southern edge of the Sonian Forest, where the layer is in contact with the Argentine. From a more general point of view, the VMM specifies that the groundwater supply of the entire system of the 'Craies Bruland' is partly explained by the spatial distribution of the areas which are impermeable due to urbanisation and the 'vast wooded areas situated in the southeast of Brussels' [VMM, 2008: 39, author's translation and interpretation].

[10] In fact, the forest ecosystem was formed during the last ice age, approximately ten thousand years ago [LAFS, 2009: 10, 181-195; Vandermotten *et al.*, 2012: 7-12, 52-53].

[11] This refers to a 'large agricultural holding run by a religious community or a lord of more or less great importance'. In most cases, the 'censier' was from 'the circle of those acquainted with lords and abbeys. They were the ones who entrusted men with nothing but their brawn with the responsibility of exploiting these inherited farms from the 11th, 12th and 13th centuries. [, etc.] [The 'censier'] was just a tenant. [He] respected the trust placed in him from one lease to the next. Furthermore, he generally had the role of notable in the village.' Thus, although he was not the owner, he 'managed a true fortune along with a whole network of relationships' [CHAB, 1992: 67-70]. Moreover, it is not unlikely that he acquired neighbouring plots of land. These remarks are not insignificant given the spatial arrangement of *censes* around the Sonian Forest and the mechanisms to enhance land value which existed in the 19th century. A precise study of the social evolution of families and property transfers under the French regime could perhaps allow an identification of certain connections between these stakeholders and the geopolitical configuration at the beginning of the 19th century [Ferraris, 1771-1778; CHAB, 1992: 73, 79, 236; AGR, *s.d.*; Roland, 2011a: 46].

[12] This domination continued under the Burgundian regime, and then under that of the Habsburgs of Spain and Austria.

[13] 'J. E. Davidts [, etc.] defines [*warande*] as a place where animals were kept in a defined space situated in the surroundings of a castle. [In addition to the role of animal reserve, the enclosed character of the *warande*] also had the function of defining a secure and protected space. In this respect, the author gives the example of the villages of Vure, Vossem and Duisburg, whose inhabitants hid in the [ducal] *warande* [of Tervuren] during enemy raids. This use dates back mainly to the Middle Ages. The right of refuge was nevertheless granted to the abovementioned villages until 1746. [, etc.] [T]he term *warande* may also refer to a lord's hunting grounds, which belonged to a private estate most of the time.' The terms *Libre Warande* or *Franche Garenne* were therefore used [Liesenborghs, 2005, author's translation and interpretation; Roland, 2011a: 103].

[14] The term 'landscape construction' is redundant: the 'value attributed to the configuration of the landscape is and can only be cultural' [Corboz, 2001 (1983): 225].

[15] The roads which went through the wooded area were cobbled from the 16th to the 18th centuries. Some of them, such as the *Waalseweg* or *Waelsche weg* (which later became the Chaussée de Waterloo), were already present in the 14th century. The drives appeared in the 17th and 18th centuries on the initiative of the court, mainly on either side of Chaussée de Waterloo and Chaussée de La Hulpe, and in the *Heeghde* (part of the Sonian Forest situated closest to the Pentagon), but also around Tervuren. Their role was therefore above all cynegetic, although they were used later in the emptying of the wood. Other drives were created in the 19th century, near the Route de la Banque, but exclusively for exploitation purposes. This was the case in particular of Avenue Brassine in 1835 [Jaumain *et al.*, 2009: 362; LAFS, 2009: 23-27, 65].

[16] A road network inside the city considered as being on the east/west commercial route linking Flanders and Rhineland during the Ancien Régime. Its name indicates that it 'was one of the first cobbled paths in the city (the current Rue de Namur, Rue de la Madeleine, Rue du Marché-aux-Herbes, Rue du Marché-aux-Poulets, Rue Sainte-Catherine and Rue de Flandres, and outside the city, Rue de Gand)' [Jaumain *et al.*, 2009: 70].

[17] These means used by the sovereigns had an economic function, but also a cynegetic and representative function. Sometimes they took the form of rights of use and of regulations within the ducal property (the oldest known forest code dates from 1371). They thus limited the passage of herds, the bringing of livestock to pasture, the cutting of grass for livestock and the felling of trees by city dwellers. Other times they took the form of physical modifications made to the forest, either to prevent its degradation or to make it easier to use. For example, in the first case let us mention the transformation of the *Heeghde* into coppices by Philip the Good in 1465; in the second case, the lowering of the Vivier d'Oie hill (1708), or the complete reorganisation of the *Heeghde* (razed between 1704 and 1728) and its roads 'for the new hunting grounds of Their Royal Highnesses' between 1781 and 1789 [Pierron, 1905: 142, 143, 161]. These multiple interventions were partly explained by the fact that the whole forest was damaged regularly by the habitants and the occupation forces during periods of unrest. This was particularly true from the 16th to the 18th century, with the religious wars (16th and 17th centuries), the bombing of Brussels by Louis XIV (1695) and the Brabant Revolution under Joseph II of Austria (1787-1794). It was in response to the damage caused by these conflicts that the management of the wooded area underwent a complete overhaul in 1788. This is explained in the body of the text [Pierron, 1905: 142-145, 159, 161, 311-336; LAFS, 2009: 10-14, 51-56].

[18] The unstopped clear-cutting took place in the form of 'successive clear-cutting of areas, one next to the other,' spread out over tens of hectares [LAFS, 2009: 233]. These cuts were often organised over several years based on felling plans. They were adopted in the 16th century for the Sonian Forest. The term 'even-aged beech forest' refers to a planting method initiated by the lieutenant *wautmaître* of Brabant, Jean Charles Théodore de l'Escaille, and was applied to the entire wooded area from 1788 by the Austrian Joachim Zinner (1742-1814). This type of non-spontaneous planting was based on monocultures of beech trees of the same age, with trees being planted simultaneously for the same felling. It gave the forest its 'cathedral' aspect, characterised by the regularity and the straightness of its trunks. This way of renewing the wooded area was continued during the French regime (from 1794 to 1815) and Dutch regime (from 1815 to 1830), and then from Belgian independence until 1860 [Mortier & Hasquin, 1997: 39-77; GRBC, IBGE *et al.*, 2003: 14; LAFS, 2009: 51-61, 105, 108, 110-111].

[19] It must be noted that the Sonian Forest became a public area in 1794, during the occupation of the southern Netherlands by France. It was, however, seized from the southern provinces by William I during the Dutch regime [LAFS, 2009: 17; Vandermotten et al., 2012: 4].

[20] This sale therefore did not only concern the surface area covered by the former ducal property, but also other forest areas inherited from the Ancien Régime or acquired following the confiscation of Church property (partially under Joseph II and totally during the French regime, in 1796), i.e. a total of 28,008 *bonniers*, 11,718 of which were part of the Sonian Forest and its coppices. Furthermore, it is important to mention that the sovereign carried out a selection of property which he privatised within a much more vast forest area (approximately 140,000 hectares), thus underlining the importance of the commercial value of the Sonian Forest during this period, due to a rationality of exploitation as well as to its geographic position with respect to Brussels, which was in full expansion. In 1823, the forest thus represented 30 % of the land assets of the ANMBV and 12% of its global capital [Corvol, 1995: 704; Tallier, 2002: 1248-1252, 1261].

[21] With the forest becoming the property of a public limited company, the latter was then liable for state tax, which was why its administration was entrusted to the municipalities which surrounded it at that time. Despite their totally arbitrary and obsolete character, the 'triage' borders – set in 1824-1825 purely for tax reasons – still determine forest management now more than ever. The boundaries of municipalities in the wooded area were used during the creation of the linguistic borders (1962, see Gilson laws), and established the distribution of the forest surface areas which were the object of differentiated management policies during the regionalisation of forests in 1983 [Jaumain *et al.*, 2009: 47-50; LAFS, 2009: 12, 77-78].

[22] *Linthout* wood (in Schaerbeek and Woluwe-Saint-Lambert), *Solbosch* (in Ixelles) and *Mesdael* wood (in Auderghem and Woluwe-Saint-Pierre) were three coppices of the Sonian Forest situated at the boundary of the first suburbs of Brussels. It was a recognised fact that they belonged to William I when the wooded area was sold to the Société Générale in 1822 [Tallier, 2002: 1250, 1253], but they were not part of the ducal property [Vandermotten *et al.*, 2012: 4]. The first was in part the property of the Forest Abbey and the castellan domain of Brussels during the Ancien Régime. It then became property belonging to a private estate during the French regime before being sold by the Société Générale in 1830. It was exploited from 1833 and disappeared from cartographic representations in 1847 [DGT, 1847]. The second – former property of La Cambre Abbey – was also cleared in the 1830s. At first intended for agriculture, it was then chosen as a site for the Plaine des Manœuvres (1836), and then for the ULB-VUB campus around 1970 (La Plaine campus). The third still existed in 1847 [DGT, 1847], but was already partly divided up. It belonged to the castellan domains of Brussels and Ganshoren during the Ancien Régime. Apart from these three sites, let us also mention other parts of the Sonian Forest which were sold by the Société Générale: in Woluwe-Saint-Pierre, *Streek Veld* and *Stockel*; in Forest, *Mosselman* wood or *Kruysbosch* (pieces of land currently occupied by Duden Park), *Sept-Bonniers* wood or *Seven bunders bosch* (former fief of Brabant sold in the 16th century and then cleared in the second half of the 19th century) and *Kersbeke* (former property of the Stalle lords sold to Forest Abbey and then cleared in 1855); and in Uccle and Ixelles, *Heeghde* or *Heegde*. The latter constituted a section which was distinct from the rest of the wooded area in terms of forest management during the Ancien Régime. It covered the current surface area of Bois de la Cambre, and extended well beyond it. A large part of it was sold by the Société Générale. Furthermore, it included *Mangelingenbosch* which belonged to La Cambre Abbey and was next to the ducal property where the 1910 World Fair was held, later to become the site of ULB in 1921 [Henne & Wauters, 1845: 620; DGT, 1847; Wauters, 1855: 55, 259, 275, 564, 644; Tallier, 2002: 1250; MRBC-DMS, Herla & Deschaumes, 2007: 9; Jaumain *et al.*, 2009: 275, 285, 296, 367, 384-385].

[23] Brussels was limited to the Pentagon. The transformations therefore refer to: the emptying of drainage ditches and the demolishing of the ramparts in 1782, the creation of the boulevards of the inner ring from 1815 to 1850, and the abolition of the tax barrier for merchandise entering the city in 1860 [Demeter, 2008: 8, 9; Jaumain *et al.*, 2009: 215, 93].

[24] Among the first large-scale programmes for the remains of the Sonian Forest were: in *Solbosch*, in Ixelles, the *Plaine des Manœuvres* complex (1836) including the artillery barracks (1877-1903) and the military arsenal (1884); in Waterloo, to the east of Chaussée de Waterloo, the Waterloo sugar refinery (1836), a former Meeûs-Rittweger property; in the former *Heeghde*, in Uccle, the Boitsfort racecourse (1875); on the plateau of *Linthout* wood (in Schaerbeek and Woluwe-Saint-Lambert), the *Institut des sourds-muets et aveugles des frères de la charité* (1878), the national shooting range (1889, transformed into infantry barracks in 1894) and the *Ecole des sœurs du Sacré-Cœur de Lille* (1903, former Linthout castle); in Hoeilaart, along the former *Route de la Banque*, the Groenendael racecourse (1888); in *Mesdael* wood (in Etterbeek), Collège Saint-Michel and the Van den Plas industrial coachbuilding company (1904); in *Streek Veld* and *Stockel* (in Woluwe-Saint-Pierre), the former Avenue de Tervuren Racecourse (1906, replaced by a sports centre in 1975); and in Duden Park, the former *Mosselman* wood (in Forest), the Union Saint-Gilloise stadium (1919) [Tallier, 2002: 1270-1271; Jaumain *et al.*, 2009: 166, 196, 218, 292, 300, 306, 341].

[25] The Société Générale shareholders included Jacques André Coghen and Maximilien de Béthune. Furthermore, among the families who had purchased pieces of land from the Société Générale were: d'Arenberg, de Béthune, Lecocq, Moyard, Hamoir de Reus, Meeûs, Coghen and Bénard. The last three families mentioned were shareholders of the *Société civile pour l'agrandissement et l'embellissement de la capitale de la Belgique* [Witte, 1969: 13; Tallier, 2002: 1267-1268; Jaumain *et al.*, 2009: 90-91, 112, 285].

[26] We are referring to the *Plan général d'alignement des faubourgs* established by Charles Vanderstraeten in 1840, and to the *Plan d'ensemble pour l'extension et l'embellissement de l'agglomération bruxelloise* of 1860, established by road inspector Victor Besme (in office from 1960 to 1903) [Ranieri, 1973: 14, 61; Zitouni, 2010].

[27] The garden city is based on the 'hypothesis that it is possible to combine the advantages of the city and the country, while doing away with the inconveniences' [Corboz, 2001 (1983): 200, 201]. During the 1930s, several of these were established in old remains of the forest. This was the case for the garden cities of Joli-Bois (1922, extended in 1950-1951, and then in 1955) and in the neighbourhood of Chant d'Oiseau (1925-1926) in Woluwe-Saint-Pierre, as well as the one on the Blankedelle plateau in Auderghem. Other garden cities were established in direct proximity of the forest edges: in Watermael-Boitsfort, the Floreal (1922-1925, extended until 1965) and the Logis (1921, extended until 1975); in Uccle, the garden city of Homborch (begun in 1928, finished between 1951 and 1959); and in Woluwe-Saint-Lambert, the Kappelleveld (1925-1978, acquisition of land between 1922 and 1926) [Jaumain *et al.*, 2009: 305, 321, 287, 337, 366].

[28] This route was supported by the creation of Léopold Park and the Luxembourg (1855) and Etterbeek (1880) stations. Furthermore, several infrastructure routes accompanied its development. Among these, let us mention: the Brussels-Namur-Luxembourg railway line (1854-1859), the military boulevards (1875-1906), the Brussels-Tervuren railway line (1877-1882) and the urban motorway beginning at the current Place Flagey (1937) and leading towards the garden city of Kappelleveld. It connected with Avenue de Tervuren at Quatres Bras. It was made up of a series of avenues: Victor Jacobs (1909), Eudore Pirmez (1903), de la Chasse (1900), George Henri (1892), de Roodebeek (1902), Emile Vandervelde (1938), Albert Dumont, Val des Seigneurs and Baron Albert d'Huart [Jaumain *et al.*, 2009: 162, 196, 216-217, 218, 286-287, 315, 320].

[29] This route was supported by the railway developments of the South Station (on the former property of Forest Abbey), by the Chaussée de Charleroi (1841) and by a series of avenues: Brugmann (1871-1873), De Fré (1864-1866), Vanderaey (1880), Coghen (1874-1879), Longchamp (1875, became Avenue Winston Churchill in 1945), Fonsny, Van Volxem (1872), de Wolvendael (1912), Jean et Pierre Carsoel (1930), Lancaster (1901) and Hamoir (1900-1902). Furthermore, it benefited from the creation of parks: Duden (1913), Forest (1882) and Wolvendael (1929) [Jaumain *et al.*, 2009: 363-364, 384-386; LAFS, 2009: 36].

[30] By-road W connected Place Rouppe and Saint-Gilles, and then, via Chaussée de Waterloo, it joined Fort Jaco and Petite Espinette. It then continued towards Rhode-Saint-Genèse and Braine l'Alleud where it branched off towards Wavre along the southern edge of the Sonian Forest. It went as far as Vert Chasseur in 1891, Petite Espinette in 1894, Grande Espinette in 1910 and Wavre around 1930. This road was a determining factor in the evolution of forest tourism and its accessibility to large sectors of the population [LAFS, 2009: 36, 37; Vandermotten *et al.*, 2012: 21].

[31] The Tracé Royal connects the Castle of Laeken to the Palace of Coudenberg. It is made up of Rue Royale (1820-1824), Rue des Palais and Avenue de la Reine (1851-1870). Its inclusion in the continuity of urbanistic operations carried out at the edge of the wooded area dates from the second half of the 19th century.

[32] It was not until between 1963 and 1973 that they were no longer used in this way. Currently, half of Drève de Lorraine, the beginning of Drève Saint-Hubert, Drève du Haras, Avenue Dubois, Vlaktedreef, Chaussée de Tervuren and Drève de la Demi-Heure are still accessible to cars [Vandermotten *et al.*, 2012: 28].

[33] This territory corresponds more or less to the triangle formed by the Castle of Laeken, the royal area of Tervuren and the large private properties situated to the far south of the Sonian Forest, i.e. the former domain of the de Béthune family in La Hulpe and the Domaine Royal d'Argenteuil, former domain of the de Meeûs family, straddling La Hulpe, Waterloo and Lasne.

[34] During the 20th century, the funds released from the sale of the wooded area once again welcomed a series of large-scale programmes: in Uccle, the Verrewinkel cemetery (1945) and Institut Pasteur (1980); in Watermael-Boitsfort, the international school (1951) built on the former Bischoffsheim property; in Auderghem, the former GB hypermarket situated under Rue de la Vignette (1961) and the Centre Sportif de la forêt de Soignes; in Ixelles, the VUB campus (from 1970); in Forest, Forest National (1969-1970), the skating rink and the municipal stadium; in Braine l'Alleud, the Golf Club des Sept Fontaines (1987); in Overijse, the Golf Club d'Overijse (1986); and in Beersel, the Forest cemetery [Jaumain *et al.*, 2009: 220, 315, 325, 338, 340, 390].

[35] In Belgium, the political regime referred to was characterised by the promulgation of two laws: the De Taeye law (1948) – encouraging private initiative for the construction of affordable dwellings and the purchase of small pieces of land – and the Brunfaut law (1949) – organising public investments in the area of housing, in particular via the financing and development of a national housing fund. From the second half of the 20th century, this political regime and the legislative framework which accompanied it may be seen as factors explaining the division of several pieces of land which used to belong to the forest. The pieces of land which were disposed of were usually large, in particular when they were purchased for private areas. They were particularly in line with the creation of residential lots or with the construction of large housing developments. Among these operations were, among others: in Auderghem, the Tenreuken council housing including HLS Oudergem (1950-1981); in Uccle, the Fond Roy, Prince d'Orange and Verrewinkel neighbourhoods, the Cobralo development (1953-1981) next to the Homborch garden city, the Tilleuls (1962) and Melkriek (1967-1971) council housing; in Forest, *La Magnanerie* (1956-1961); in Wezembeek-Oppem, the Bel Air neighbourhood; in Woluwe-Saint-Pierre, the Chant d'Oiseau, Saint-Paul and Dames-Blanches neighbourhoods (1948); in Overijse (Jesus-Eik), the Jolypark and Onze-Lieve-Vrouwedal neighbourhoods; in Kraainem, the Haut-Kraainem residential developments; and in Rhode-Saint-Genèse, the residential developments located between Avenue de la Forêt de Soignes and Drève de Linkebeek [Jaumain *et al.*, 2009: 321, 322, 365, 386-389; Dubois, 2005].

[36] 'Said of a partial cutting removing only trees in their maturity or which are a nuisance. The wooded area is gradually opened by removing certain trees in order to prepare a relative isolation of the tops of some seed trees, 130 to 140 years old. This seed felling of less than a hectare is intended to be replanted by a clump of trees from natural sowing. This cutting favours productivity and young recruits, as the soil is preserved in fertile conditions with constant shelter under the crown of old trees. Furthermore, in order to ensure enough light for the young trees, periodic (every eight years) and gradual cutting – referred to as intermediate felling – removes the trees from the old cluster which have become more of a nuisance. Replanting is begun in several places and takes place over 25 to 50 years. The gaps obtained also allow homogeneous clumps of light-demanding species to be planted – such as oak trees – which are naturally supplanted by beech, a shade bearer which dominates the other trees in the well-drained soil of the Sonian Forest. A forest with an irregular aspect is therefore obtained, presenting patches of trees of all ages and of variable surfaces. The last intermediate felling is referred to as final. What remains of the former regular beech forest disappears and the forest takes on a more natural aspect [LAFS, 2009: CAMMAERTS, R., 59-60].'

[37] Part of the wooded area depends on a fourth authority: the Belgian Royal Trust (1930). It manages and owns the Boitsfort ponds, the arboretum, the Capuchin wood, the Ravenstein golf club and castle, the British School of Brussels and Val-Duchesse [Ranieri, 1973: 353-356; LAFS, 2009: 19; Vandermotten *et al.*, 2012: 58].

[38] Admittedly, the emergence and democratisation of the car, as well as the development of road infrastructures, have played an important role in the spreading out of residential settlements since the 1960s. But one must not forget that these factors intervened quite late with respect to the first forms of distribution of developed land within the area considered. For example, Boulevard de la Woluwe was only finished in 1964, the development of the former Route de la Banque dates from 1968-1978, the E411 towards Namur was finished in 1968-1970, the E40 towards Liège, in 1970, the Hermann-Debroux viaduct in Auderghem, in 1973, and the ring road, in 1970-1978 [Jaumain *et al.*, 2009: 288, 322].

Bibliography

Sources for the text

AGENTSCHAP VOOR GEOGRAFISCHE INFORMATIE VLAANDEREN (AGIV), 1996-2000, « relictzones, ankerplaatsen »; Geo-Vlaanderen: Relicten van de traditionele landschappen (1996-2000), [online: 04.01.2012]. URL: http://geo-vlaanderen.agiv.be/geo-vlaanderen/landschapsatlas/

AGENTSCHAP VOOR GEOGRAFISCHE INFORMATIE VLAANDEREN (AGIV), 2000, « bosreferentielaag »; Geo-Vlaanderen: Boskartering (1990, 2000), [online: 04.01.2012]. URL: http://geo-vlaanderen.agiv.be/geo-vlaanderen/bossen/

AGENTSCHAP VOOR GEOGRAFISCHE INFORMATIE VLAANDEREN (AGIV), 2000-2001, « signaalkaarten voor ecotoopverlies, verdroging, verzuring, vermesting, barrière, ontsnippering »; Geo-Vlaanderen: Ecosysteemkwetsbaarheidskaarten (2000-2001), [online: 04.01.2012]. URL: http://geovlaanderen.agiv.be/geo-vlaanderen/kwetsbaarheidskaarten/

AGENTSCHAP VOOR GEOGRAFISCHE INFORMATIE VLAANDEREN (AGIV), 2005, « habitatkaart »; Geo-Vlaanderen: Ecosysteemkwetsbaarheidskaarten (2005), [online: 04.01.2012]. URL : http://geovlaanderen.agiv.be/geo-vlaanderen/kwetsbaarheidskaarten/

AGIER, M., 2009, Esquisse d'une anthropologie de la ville. Lieux, situations, mouvements, Louvain-la-Neuve, Anthropologie prospective n°5 (coll.), Bruylant-Academia (eds.), 159 pp.

ARCHIVES GÉNÉRALES DU ROYAUME (AGR), sine dato, [online: 05.02.2011].

Fermes de Watermael censitaires de la vénerie de Boitsfort : 1. 't hoff Schoonenbergh, 2. 't hoff terlinden, - 3. Situation en 1716 des deux métairies autorisées à envoyer paître leurs troupeaux dans la forêt de Soignes. D'après une carte du géomètre F. De Mesmaker, conservée aux Archives Générales du Royaume, à Bruxelles, (plan). URL: http://adore.ugent.be/view/archive.ugent.be:38B43378-9F6E-11DF-A159-4664C2C209CF © 2008 Ghent University Library

't hof ten trappen à Hoeylaert, en 1763, ferme censitaire de la Vénerie de Boitsfort, autorisée à envoyer paître ses troupeaux dans la forêt de Soignes. D'après le plan du géomètre J. Bodimont, (plan). URL: http://adore.ugent.be/view/archive.ugent.be:76B0F52A-9F6A-11DF-AFE5-7316C2C209CF © 2008 Ghent University Library

La ferme de Tout-Lui-Faut ou de Tout-Lifaux, censitaire de la vénerie de Boitsfort : autorisée à envoyer paître ses troupeaux dans la forêt de Soignes : la métairie en 1749, d'après la carte figurative du géomètre Alph. Gouttier ; la métairie en 1781, d'après la carte figurative du géomètre P. R. Culp, (plan). © 2008 Ghent University Library URL: http://adore.ugent.be/view/archive.ugent.be:32725E4A-9F6E-11DF-87D0-CB63C2C209CF

ARNAUD, J.-L., 2008, Analyse spatiale, cartographie et histoire urbaine, Louvain-la-Neuve, Parcours Méditerranéens (coll.), Parenthèses / MMSH (eds.), 233 pp.

AUSTIN, J. L., LANE, G. (trans. 1970), 1991 (1962), Quand dire, c'est faire, Paris, Seuil (eds.), 202 pp.

BAUD, P., BOURGEAT, S., BRAS, C., 2008, Dictionnaire de géographie, Paris, Initial (coll.), Hatier (eds.), 607 pp.

BRICHAU, I., AMEEUW, G., GRYSEELS, M., PAELINCKX, D., 1997-2000, « Carte d'Evaluation Biologique, version 2. Feuilles 31-39. Instituut voor Natuurbehoud et Institut Bruxellois pour la Gestion de l'Environnement »; Communications de l'Instituut voor Natuurbehoud, n°15, Bruxelles, Instituut voor Natuurbehoud (eds.), 203 pp. + 18 feuilles.

BRICHAU, I., AMEEUW, G., GRYSEELS, M., PAELINCKX, D., 2000, « Carte d'Evaluation Biologique, version 2. Texte explicatif des feuilles 31-39. Instituut voor Natuurbehoud et Institut Bruxellois pour la Gestion de l'Environnement »; Communications de l'Instituut voor Natuurbehoud, n°15, Bruxelles, Instituut voor Natuurbehoud (eds.), 203 pp. + 18 feuilles.

BYL, S., DEVOS, Y., FOURNY, M., MARTIN, F., PHILLIPART, V., 2010, « Fouille préventive à l'intérieur de la fortification Michelsberg de Boitsfort-Étangs. Résultats préliminaires »; Notae Praehistorica, n°30, pp. 49-56, [online: 25.11.2010]. URL: http://www.natuurwetenschappen.be/mars/groups/fnrs-contact-group/notae-praehistoricae/pdf/copy8_of_Np01/np30_49-56_byl-etal_boitsfort_101210_coul-p.pdf

CAMPBELL, N., REECE, J., (Adaptation et révision scientifique de René Lachaîne et Michel Bosset), 2007, Biologie. 7ème édition, Paris, Pearson Education France, Renouveau Pédagogique Inc. (eds.), 1334 pp.

CARON, R., sine dato, Considérations conceptuelles sur la nouvelle carte de base 1 : 10 000 de l'Institut Géographique National, Institut Géographique National (eds.), 17 pp., [online: 20.10.2010]. URL: http://www.ngi.be/Common/articles/ADG_Bsm/considerationsFR.pdf

CASSIERS, I., DENAYER, L., 2009, « Concertation sociale et transformations socio-économiques en Belgique, de 1944 à nos jours »; Discussion Paper, 2009-42, 23 pp., Louvain-la-Neuve, Institut de Recherches Économiques et Sociales – UCL (eds.), [online: 04.01.2012]. URL: http://sites.uclouvain.be/econ/DP/IRES/2009042.pdf

CENTRE D'HISTOIRE DE L'ARCHITECTURE ET DU BÂTIMENT DE L'U.C.L. (CHAB), COLLECTIF, 1992, Architecture rurale de Wallonie. Pays de Soignies et de Nivelles, Liège, Mardaga (eds.), 261 pp.

COMMISSION EUROPÉENNE (CE), 2000, « Directive 2000/60/CE du Parlement Européen et du Conseil du 23 octobre 2000 établissant un cadre pour une politique communautaire dans le domaine de l'eau »; Journal officiel des Communautés européennes, n°L 327, pp. 0001-0073, Office des publications de l'Union européenne (eds.).

COMMISSION EUROPÉENNE (CE), 2007, Coopération territoriale transnationale (INTERREG IVB). Programme opérationnel pour l'Europe du Nord Ouest 2007-2013, 210 pp., Lille, INTERREG IVB – Région Nord-Pas de Calais (eds.), [online: 06.04.2011]. URL: http://www.nweurope.eu/nwefiles/file/OP_FR.pdf

COMMUNAUTÉ ÉCONOMIQUE EUROPÉENNE (CEE), 1992, « Directive 92/43/CEE du Conseil du 21 mai 1992 concernant la conservation des habitats naturels ainsi que de la faune et de la flore sauvages. Version consolidée du premier janvier 2007 »; Journal officiel, L 206, pp. 7-50, Office des publications de l'Union européenne (eds.), [online: 25.11.2010]. URL: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CONSLEG:1992L0043:20070101:FR:PDF

COÖRDINATIECOMMISSIE INTEGRAAL WATERBELEID (CIW), VLAAMSE MILIEUMAATSCHAPPIJ (VMM), 2010, Kaartenatlas bij het stroomgebiedbeheerplan voor de Schelde. Bijlage bij het stroomgebiedbeheerplan voor de Schelde 2010 – 2015, Erembodegem, CIW p/a VMM (eds.), 49 pp., [online: 04.01.2012].

In particular:

SGD Schelde 2.5. Grondwaterlichamen in het Brulandkrijtsysteem (1), p. 11

SGD Schelde 2.6. Grondwaterlichamen in het Brulandkrijtsysteem (2), p. 12

SGD Schelde 3.4. Beschermingszones drinkwaterwinning grondwater, p. 21

SGD Schelde 5.16. Toestand grondwater chemisch en kwantitatief HCOV 0600, p. 39
URL: http://www.integraalwaterbeleid.be/nl/stroomgebiedbeheerplannen/voor-de-schelde/Kaartenatlas%20voor%20de%20Schelde.pdf/view?searchterm=schelde

CORBOZ, A., 2001 (1983), Le Territoire comme palimpseste et autres essais, Paris, L'imprimeur (eds.), 288 pp.

CORVOL, A., 1995, « Michel Maziers, Histoire d'une forêt périurbaine. Soignes sous la coupe de la Société générale, 1822-1843 »; Annales d'histoire économique et sociale, Vol. 50, n°3, pp. 702-704, Annales. Histoire, Sciences Sociales (eds.), [online: 28.11.2010]. URL: http://www.persee.fr/web/revues/home/prescript/article/ahess_0395-2649_1995_num_50_3_279391_t1_0702_0000_002

CORVOL, A., 2005, « Mutations et enjeux en forêt de Soignes: les années 1900 »; Journal forestier suisse, n°156, pp. 279-287, Zurich, ETH (Swiss Federal Institute of Technology) - Department of Environmental Sciences, Institute for Human-Environmental Sciences (eds.). URL : http://e-collection.library.ethz.ch/eserv/eth:635/eth-635-01.pdf

DAISE, J., RONDEUX, J., CLAESSENS, H., 2009, Étude de l'adéquation des essences aux stations forestières de la forêt de Soignes (Zone bruxelloise) dans le contexte du changement climatique. Rapport final, IBGE-BIM, ULg – GxABT (eds.), 392 pp., [online: 04.01.2012]. URL: http://www.acqu.be/IMG/pdf_etude_fds_essences_changclimat_dec2009.pdf

DAISE, J., VANWIJNSBERGHE, S., CLAESSENS, H., 2011, « Analyse de l'adéquation actuelle et future des arbres à leur station en forêt de Soignes bruxelloise »; Forêt Wallonne, n°110, 21 pp., [online: 04.01.2012]. URL: http://www.foretwallonne.be/images/stories/pdffolder/fw110_3-21[adequation].pdf

DECLERCQ, K., 2008, Brochure // Schéma de structure de la forêt de Soignes. La vision d'avenir de la forêt de Soignes, Bruxelles, Bruxelles Environnement (IBGE-BIM) - Agenschap voor Natuur en Bos - Division de la Nature et des Forêts (eds.), 16 pp., [online: 06.04.2011]. URL: http://www.soignes-zonien.net/gestion%20de%20la%20foret/schema-de-structure/brochure-de-presentation

DEFLOOR, W., VAN GULCK, T., PEYMEN, J., VAN STRAATEN, D., KUIJKEN, E., 2000, « Opstellen prioriteitenatlas voor ontsnipperingsmaatregelen op het transport infrastructuurnetwerk »; Rapport Instituut voor Natuurbehoud 2001.3, 40 pp., Brussel, Instituut voor Natuurbehoud (eds.), [online: 04.01.2012]. URL: http://geo-vlaanderen.gisvlaanderen.be/Geo-Vlaanderen/kwetsbaarheidskaarten/help/prioriteitenatlas.pdf

DEJEMEPPE, P., PÉRILLEUX, B., (dir.), COLLECTIF, 2012, Bruxelles 2040. Trois visions pour une métropole, Bruxelles, P. Dejemeppe (eds.), 88 pp.

DEMETER, S. (dir.), INGELAERE, P., DE POORTER, A., 2008, La deuxième enceinte de Bruxelles. Livre guide, P. Crahay (eds.), [online: 04.01.2012]. URL: http://www.monument.irisnet.be/fr/download/FR_2enceinte.pdf

DE VOS, B., 2005, « Bodemcompactie en de invloed op de natuurlijke verjonging van Beuk in het Zoniënwoud »; IBW.Bb R 2005.004, 75 pp., Geraardsbergen, In opdracht van het Fonds Generale Maatschappij van België voor het Zoniënwoud onder auspiciën van de Koning Boudewijnstichting, Instituut voor Bosbouw en Wildbeheer (eds.), [online: 06.04.2011]. URL: http://www.inbo.be/docupload/2359.pdf

DIRECTION GÉNÉRALE AGRICULTURE, RESSOURCES NATURELLES & ENVIRONNEMENT (SERVICE PUBLIC DE WALLONIE - DGARNE), 2005, Masse d'eau souterraine RWE080 – Craies du Brabant, 22 pp., [online: 04.01.2012].

In particular:

Figure 1.9 – Contacts entre la nappe des Craies du Brabant et les eaux de surface, p. 10 URL: http://environnement.wallonie.be/directive_eau/edl_ssb/ficheso/cdet_RWE080.pdf

DIRECTION GÉNÉRALE AGRICULTURE, RESSOURCES NATURELLES & ENVIRONNEMENT (SERVICE PUBLIC DE WALLONIE - DGARNE), 2006, Masse d'eau souterraine RWE051 – Sables du Bruxellien, 29 pp., [online: 04.01.2012].

In particular:

RWE051 – Krigeage de la vulnérabilité, p. 13 URL: http://environnement.wallonie.be/directive_eau/edl_ssb/ficheso/cdet_RWE051.pdf

DIRECTION GÉNÉRALE AGRICULTURE, RESSOURCES NATURELLES & ENVIRONNEMENT (SERVICE PUBLIC DE WALLONIE - DGARNE), 2010, Avant-projet de plan de gestion – DHI Escaut – Masse d'eau souterraine RWE051, 24 pp., [online: 04.01.2012].

In particular:

Carte 2.2 : Localisation des prélèvements en eau souterraine, p. 19 URL: http://environnement.wallonie.be/directive_eau/edl_ssb/ficheso/fiche_EDL_MESO_E051_vp09.pdf

DUBOIS, O., 2005, « Le rôle des politiques publiques dans l'éclatement urbain : l'exemple de la Belgique »; Développement durable et territoires, Dossier 4 : La ville et l'enjeu du Développement Durable, 20 pp., [online: 23.07.2011]. URL, 04.06.2005 (1pub.): http://developpementdurable.revues.org/747

DUCPETIAUX, E., 1847, « Rapport sur l'établissement de marchés couverts à Bruxelles »; Annales du Conseil central de salubrité publique. Tome IV, Bruxelles, pp. 87-102, C. Muquardt (eds.), [online: 06.04.2011]. URL: http://books.google.com

DUJARDIN, C., THOMAS, I., TULKENS, H., 2007, « Quelles frontières pour Bruxelles : une mise à jour »; Reflets et perspectives de la vie économique, Tome XLVI, pp. 155-176, De Boeck Université (eds.), [online: 29.04.2010]. URL: www.cairn.info/load_pdf.php?ID_ARTICLE=RPVE_462_0155

DUVIVIER, C., 1861, « La forêt Charbonnière (Carbonaria silva) »; Revue d'Histoire et d'Archéologie, Tome II, 26 pp., Bruxelles, E. Devroye - Imprimeur du Roi (eds.).

EGGERICKX, T., POULAIN, M., 1990, « Les phases du processus d'urbanisation en Belgique de 1831 à 1990 »; Croissance démographique et urbanisation. Politiques de peuplement et aménagement du territoire. Séminaire international de Rabat (15-17 mai 1990), n°5, pp. 83-92, Belgique, Association Internationale des Démographes de Langue Française (eds.), [online: 04.01.2012]. URL: http://www.erudit.org/livre/aidelf/1990/000916co.pdf

EUROPEAN ENVIRONMENT AGENCY (EEA), 2006, CLC 2006 V13 - 100m (g100_06.zip) (Corine Land Cover 2006 seamless vector data – version 13: 02/2010; produced by The European Topic Centre on Land Use and Spatial Information), EEA (eds.), [online: 30.12.2010 – 15.01.2011]. URL, 27.05.2010 (1pub.): http://www.eea.europa.eu/data-and-maps/data/corine-land-cover-2006-raster © European Environment Agency

EUROPEAN ENVIRONMENT AGENCY (EEA), 2010, Natura2000_Public_MID2010_100KLAEA.zip (Natura 2000 data - the European network of protected sites; derived from Unit Nature & Biodiversity, DG Environment, European Commission), 1 : 100 000, EEA (eds.), [online: 31.01.2011]. URL, 04.11.2010 (1pub.): http://www.eea.europa.eu/data-and-maps/data/natura © Directorate-General for Environment

FELTZ, B., 2003, La science et le vivant. Introduction à la philosophie des sciences de la vie, Bruxelles, Sciences Éthiques Sociétés (coll.), De Boeck Université (eds.), 220 pp.

FERRARIS, J.-J. F., 1770, Carte Topographique de la forêt de Soignes et de ses Environs, 1 : 29 000, Bruxelles, Institut Géographique National (eds.).

FERRARIS, J.-J. F., 1771-1178, Carte de Cabinet des Pays-Bas autrichiens et de la Principauté de Liège, 1 : 11 520, Bruxelles, Bibliothèque royale de Belgique (eds.), [online: 10.07.2009]. URL: http://www.kbr.be/collections/cart_plan/ferraris/ferraris_fr.html ; http://www.urba.be/Rues/rues_v.htm

FORREST, M., KONIJNENDIJK, C., 2005, « A History of Urban Forests and Trees in Europe »; Urban Forests and Trees, pp. 23-48, Springer (eds.).

FRICX, E. H., 1712, « Plan de la Ville de Bruxelles »; Carte des Pays-Bas, feuillet n°60, Bruxelles, Bibliothèque royale de Belgique (eds.; ref. Cartes et plans, II 63204 (60) D), [online: 10.07.2009]. URL: http://images.kbr.be/mapview/index.php?image=/CM/1724721.imgf

GEERTZ, C., 1973, The Interpretation of Cultures, New York, Basic Books (eds.), 378 pp.

GEERTZ, C., MARY, A. (trans.), 1998 (1973), « La description dense »; Enquête, La description I, pp. 73-105, [online: 31.08.2011]. URL, 27.01.2009 (1pub.): http://enquete.revues.org/document1443.html

GOUVERNEMENT DE LA RÉGION DE BRUXELLES-CAPITALE (GRBC), 2001, Plan Régional d'Affectation du Sol de la Région de Bruxelles-Capitale, [online: 04.01.2012]. URL: http://www.brugis.irisnet.be/openbrugis/Default.aspx?lang=fr

GOUVERNEMENT DE LA RÉGION DE BRUXELLES-CAPITALE (GRBC), 2002, « Plan Régional de Développement »; Moniteur belge, n°324, 15.10.2002, pp. 46233-47000, Bruxelles, Direction du Moniteur belge (eds.), [online: 30.04.2009, 11.05.2012]. URL (30.04.2009): http://www.prd.irisnet.be/Fr/arrete_complet1.pdf URL (11.05.2012): http://urbanisme.irisnet.be/lesreglesdujeu/les-plans-de-developpement/pdf/ArretePRD.pdf

GOUVERNEMENT DE LA RÉGION DE BRUXELLES-CAPITALE (GRBC), INSTITUT BRUXELLOIS POUR LA GESTION DE L'ENVIRONNEMENT (IBGE-BIM) : Division Espaces Verts - Département des Bois et Forêts - Cantonnement de Bruxelles (VANWIJNSBERGHE, S., KEMPENEERS, S.), 2003, Plan de gestion de la forêt de Soignes partie de Bruxelles-Capitale, Bruxelles, IBGE-BIM (eds.), 163 pp.

GOUVERNEMENT DE LA RÉGION DE BRUXELLES-CAPITALE (GRBC) : Direction études et planification de l'Administration de l'Aménagement du Territoire et du Logement (AATL), Agence de Développement Territorial pour la Région de Bruxelles-Capitale (ADT), 2011, Plan Régional de Développement Durable. État des lieux, Bruxelles, ADT (eds.), 313 pp.

GOUVERNEMENT WALLON (GW), 1977-1987, Plan de Secteur (Plan d'Affectation du Sol de la Région wallonne), [online: 04.01.2012]. URL: http://carto6.wallonie.be/WebGIS/viewer.htm?APPNAME=PDS

GOUVERNEMENT WALLON (GW) : Direction générale opérationnelle Aménagement du territoire, Logement, Patrimoine et Énergie - Département de l'Aménagement du territoire et de l'Urbanisme, Développement territorial, 1999, Schéma de Développement de l'Espace Régional, 233pp. + 27 A., [online: 12.02.2009]. URL: http://developpement-territorial.wallonie.be/Dwnld/SDER%2Bcartes.PDF

HACHE, É., 2011, Ce à quoi nous tenons. Propositions pour une écologie pragmatique, Paris, Les empêcheurs de penser en rond / La Découverte (coll.), La Découverte (eds.), 248 pp.

HENNE, A., WAUTERS, A., 1845, Histoire de la ville de Bruxelles. Tome III, Bruxelles, 694 pp., [online: 06.04.2011]. URL: http://books.google.com

INSTITUT BRUXELLOIS POUR LA GESTION DE L'ENVIRONNEMENT (IBGE-BIM) : HANNEQUART, J.-P., SCHAMP, E., 2009, Synthèse de l'état de l'environnement 2007-2008, Bruxelles, 35 pp., [online: 06.04.2011]. URL: http://documentation.bruxellesenvironnement.be/documents/SEE_completFR_Def_290910_web.pdf

INSTITUT CARTOGRAPHIQUE MILITAIRE (ICM) : VERSTRAETEN, Th., 1879, Carte topographique et hydrographique de l'Entre-Senne-et-Dyle. Tracés des aqueducs, prises d'eau et galeries de drainage de la distribution d'eau, 1 : 40 000, Bruxelles, Archives de la Ville de Bruxelles (eds.; ref. plan n°105).

INSTITUT CARTOGRAPHIQUE MILITAIRE (ICM), 1885, Carte routière des environs de Bruxelles (rédaction et gravure : 1865-1878, révision de la voirie (gravure) : 1884-1885, transports de la gravure : 1885 ; on canvas), Bruxelles, Archives de la Ville de Bruxelles (eds.; ref. plan n°113/4).

INSTITUT CARTOGRAPHIQUE MILITAIRE (ICM), 1904, Carte routière des environs de Bruxelles (rédaction et gravure 1865-1878, mis à jour de la voirie 1904), 1 : 40 000, Bruxelles, Archives de la Ville de Bruxelles (eds.; ref. plan n°124/6).

INSTITUT GÉOGRAPHIQUE MILITAIRE (IGM), 1975 (c. 1858), Carte topographique et hypsométrique de Bruxelles et ses environs. Dressée à l'Échelle de 1 : 20 000 d'après les plans et documents de l'Établissement géographique fondée par Ph. Vander Maelen, par J^{h}. Huvenne dessinateur topographe et gravée par J. Ongers, Bruxelles, Commission française de la Culture de l'Agglomération de Bruxelles (eds.).

INSTITUT GÉOGRAPHIQUE NATIONAL (IGN), 1988-2002, Carte topographique 1 : 20 000. Ed. 1. (31: 3-4, 7-8 ; 32: 1-2; 39: 1-2, 3-4; 40: 1-2), 1988-1997 (aerial photography), 1991-2001 (photogrammetric plotting), 1993-2002 (map editing), Bruxelles, IGN (eds.).

INSTITUUT VOOR NATUUR- EN BOSONDERZOEK (INBO): DUMORTIER, M. (dir.), DE BRUYN, L., HENS, M., PEYMEN, J., SCHNEIDERS, A., VAN DAELE, T., VAN REETH, W. (red.), 2009, « Natuurverkenning 2030. Natuurrapport Vlaanderen, NARA 2009 »; Mededeling van het Instituut voor Natuur- en Bosonderzoek, 2009-7, 221 pp., Bruxelles, INBO (eds.). URL: http://www.inbo.be/files/bibliotheek/26/185826.pdf

INSTITUUT VOOR NATUUR- EN BOSONDERZOEK (INBO): DE KNIJF, G., DE SAEGER, S., VRIENS, L., OOSTERLYNCK, P., PAELINCKX, D., 2010, « De Biologische Waarderingskaart. Wetenschappelijke ondersteuning van het gebiedsgericht beleid: De Biologische Waarderingskaart »; Mededeling van het Instituut voor Natuur- en Bosonderzoek, 2010-4, 20 pp., Bruxelles, INBO (eds.). URL: http://www.inbo.be/files/bibliotheek/67/217267.pdf

INSTITUUT VOOR NATUUR- EN BOSONDERZOEK (INBO): VANDEKERKHOVE, K., 2011, « Enkele hardnekkige misverstanden over de beuken in het Zoniënwoud »; Bosreservaten nieuws. Nieuwsbrief van het Instituut voor Natuur- en Bosonderzoek. Onderzoeksprogramma Bosreservaten, n°11, pp. 22-24, Bruxelles, INBO (eds.). URL: http://www.inbo.be/files/bibliotheek/46/230046.pdf

JAUMAIN, S. (dir.), COLLECTIF, 2009, La Région de Bruxelles-Capitale, Bruxelles, Histoire & Patrimoine des communes de Belgique (coll.), Racine (eds.), 624 pp.

KESTELOOT, C., LOOPMANS, M., 2009, « États généraux de Bruxelles. Inégalités sociales »; Brussels Studies, Note de Synthèse n°15, 03.03.2009, 13 pp., [online: 05.03.2009]. URL: http://www.brusselsstudies.be/medias/publications/FR_87_EGB15.pdf

KURGAN-VAN HENTENRYK, G., 1997 (1996), Gouverner la Générale de Belgique. Essai de biographie collective, Bruxelles, Paris, De Boeck Université (eds.), 266 pp., [online: 06.04.2011]. URL: http://books.google.com

KURGAN-VAN HENTENRYK, G., 1998, « Entre tradition et modernité, le patronat bancaire en Belgique de 1850 à 1950 »; Les entreprises et leurs réseaux : hommes, capitaux, techniques et pouvoirs. XIX^{e}-XX^{e} siècles. Mélanges en l'honneur de François Caron, pp. 457-470, Paris, Mondes Contemporains (coll.), Presses de l'Université de Paris Sorbonne (eds.), [online: 06.04.2011]. URL: http://books.google.com

Langhor, R., 2001, « L'anthropisation du paysage pédologique agricole de la Belgique depuis le Néolithique ancien - Apports de l'archéopédologie »; Étude et Gestion des sols, 8, 2, pp. 103-118, [online: 04.01.2012]. URL: http://www.inra.fr/afes/pdf/EGS_8_2_langohr.pdf

Langhor, R., 2010, « Quelques facteurs édaphiques dans l'écosystème forêt de Soignes »; Forêt Wallonne, n°105, 14 pp., [online: 04.01.2012]. URL: http://www.foretwallonne.be/images/stories/pdffolder/fw105_3-14[SolSoignes].pdf

Larrère, C., Larrère, R., 2009 (1997), Du bon usage de la nature. Pour une philosophie de l'environnement, Paris, Champs essais (coll.), Flammarion (eds.), 355 pp.

Latour, B., 1997 (1991), Nous n'avons jamais été modernes. Essai d'anthropologie symétrique, Paris, La Découverte / Poche (coll.), La Découverte & Syros (eds.), 209 pp.

Latour, B., 1998, Paris ville invisible, Paris, Les empêcheurs de penser en rond (coll.), La Découverte (eds.), 159 pp.

Les Amis de la Forêt de Soignes (LAFS), Collectif, 2009, La forêt de Soignes. Connaissances nouvelles pour un patrimoine d'avenir, Wavre, Mardaga (eds.), 239 pp.

Liesenborghs, P., 2005 « Hoofdstuk I. Rol van de jacht aan de aartshertogelijke hoven van Albrecht en Isabella »; Het edele vermaak. De jacht in de Spaanse Nederlanden onder de Aartshertogen, Leuven, Katholieke Universiteit Leuven (eds.), [online: 22.05.2010]. URL: http://www.ethesis.net/jacht/jacht_hfst_1.htm

Lussault, M., 2007, L'homme spatial. La construction sociale de l'espace humain, Paris, La couleur des idées (coll.), Seuil (eds.), 366 pp.

Mary, A., 1998, « De l'épaisseur de la description à la profondeur de l'interprétation »; Enquête, La description I, [online: 25.11.2010]. URL, 23.01.2009 (1pub.): http://enquete.revues.org/document1433.html

Maziers, M., 1994, Histoire d'une forêt périurbaine : Soignes, 1822-1843, sous la coupe de la Société Générale, Bruxelles, Université libre de Bruxelles (eds.), 144 pp.

Ministère de la Région de Bruxelles-Capitale (MRBC) : Direction des Monuments et des Sites (DMS), 2005-2007, « Ixelles. Avenue Brugmann »; Inventaire du Patrimoine architectural. Bruxelles-Extension Est, P. Crahay (eds.), [online: 06.04.2011]. URL: http://www.irismonument.be/fr.Ixelles.Avenue_Brugmann.html

Ministère de la Région de Bruxelles-Capitale (MRBC) : Direction des Monuments et des Sites (DMS) (Berckmans, C., Genon, M.-H.), sine dato (2006-2009), « Le quartier Nord-Est. Les squares et leurs abords. Histoire du développement urbanistique. »; Inventaire du Patrimoine architectural. Bruxelles-Extension Est, 34 pp., Bruxelles, P. Crahay (eds.), [online: 06.04.2011]. URL: http://www.irismonument.be/pdf/fr/1002-developpement_urbanistique_quartier_nord_est.pdf

Ministère de la Région de Bruxelles-Capitale (MRBC) : Direction des Monuments et des Sites (DMS) (Douillet, I., Schaack, C.), sine dato a (2005-2008), « L'avenue Louise et les rues adjacentes. Considérations historiques, urbanistiques et architecturales »; Inventaire du Patrimoine architectural. Bruxelles-Extensions Sud, 34 pp., Bruxelles, P. Crahay (eds.), [online: 06.04.2011]. URL: http://www.irismonument.be/pdf/fr/10516085-louise_bruxelles-extensions_sud.pdf

Ministère de la Région de Bruxelles-Capitale (MRBC) : Direction des Monuments et des Sites (DMS) (Douillet, I., Schaack, C.), sine dato b (2005-2008), « Le Bois de la Cambre. »; Inventaire du Patrimoine architectural. Bruxelles-Extensions Sud, 25 pp., Bruxelles, P. Crahay (eds.), [online: 06.04.2011]. URL: http://www.irismonument.be/pdf/fr/1001-bois_cambre_bruxelles-extensions_sud.pdf

Ministère de la Région de Bruxelles-Capitale (MRBC) : Direction des Monuments et des Sites (DMS) (Douillet, I., Schaack, C.), sine dato c (2005-2008), « L'avenue Franklin Roosevelt et le quartier du Solbosch. Considérations historiques, urbanistiques et architecturales »; Inventaire du Patrimoine architectural. Bruxelles-Extensions Sud, 23 pp., Bruxelles, P. Crahay (eds.), [online: 06.04.2011]. URL: http://www.irismonument.be/pdf/fr/1001-roosevelt_solbosch_bruxelles-extensions_sud.pdf

Ministère de la Région de Bruxelles-Capitale (MRBC) : Direction des Monuments et des Sites (DMS) (Herla, M., Deschaumes, C.), 2007, « Les quartiers Berkendael et Tenbosch (Ixelles). Développement urbanistique »; Inventaire du Patrimoine architectural. Bruxelles-Extensions Sud, 14 pp., Bruxelles, P. Crahay (eds.), [online: 06.04.2011]. URL: http://www.irismonument.be/pdf/fr/1050-developpement_urbanistique_ixelles.pdf

Ministère de la Région de Bruxelles-Capitale (MRBC) : Direction études et planification de l'Administration de l'Aménagement du Territoire et du Logement (AATL), ICEDD, KUL, (VUB), 2010a, « Carte n° 1. Plan Régional d'Affectation du Sol – Gewestelijk bestemmingsplan (RBC) / Plan de Secteur (RW) / Gewestplan (VG) »; État des lieux de l'espace métropolitain Bruxellois, [online: 04.01.2012]. URL: http://urbanisme.irisnet.be/lesreglesdujeu/pdf/hinterland/cartes

Ministère de la Région de Bruxelles-Capitale (MRBC) : Direction études et planification de l'Administration de l'Aménagement du Territoire et du Logement (AATL), ICEDD, KUL, (VUB), 2010b, « Carte n° 3. La situation de fait (NAVTEQ) – Feitelijke toestand (NAVTEQ) »; État des lieux de l'espace métropolitain Bruxellois, [online: 04.01.2012]. URL: http://urbanisme.irisnet.be/lesreglesdujeu/pdf/hinterland/cartes

Ministère de la Région de Bruxelles-Capitale (MRBC) : Direction études et planification de l'Administration de l'Aménagement du Territoire et du Logement (AATL), ICEDD, KUL, (VUB), 2010c, « Carte n° 6. La densité de population - Bevolkingsdichtheid »; État des lieux de l'espace métropolitain Bruxellois, [online: 04.01.2012]. URL: http://urbanisme.irisnet.be/lesreglesdujeu/pdf/hinterland/cartes

MINISTÈRE DE LA RÉGION DE BRUXELLES-CAPITALE (MRBC) : Direction études et planification de l'Administration de l'Aménagement du Territoire et du Logement (AATL), ICEDD, KUL, (VUB), 2010d, Élaboration d'un état des lieux de l'espace métropolitain Bruxellois, Leuven, Namur, 49 pp., [online: 04.01.2012]. URL: http://urbanisme.irisnet.be/lesreglesdujeu/pdf/hinterland/rapport/RapportFR_Bruxelles_metropolitain.pdf

MINISTERIE VAN DE VLAAMSE GEMEENSCHAP (MVG): Departement Leefmilieu en Infrastructuur - Administratie Ruimtelijke Ordening, Huisvesting, Monumenten en Landschappen - Afdeling Ruimtelijke planning, 2004, Ruimtelijk Structuurplan Vlaanderen. Gecoördineerde versie, Brussel, 596 pp., [online: 13.12.2009]. URL: http://www.rsv.vlaanderen.be/export/sites/rsv/uploads/documenten/overRSV/rsv_w.pdf

MINISTERIE VAN DE VLAAMSE GEMEENSCHAP (MVG): Departement RWO - ruimtelijke planning, OMGEVING, ARCADIS, IDEA CONSULT, TRITEL, O2 CONSULT, 2008a, Eindrapport overlegproces Vlaams stedelijk gebied rond Brussel. Hoofdrapport/tekst. 14 november 2008, Berchem-Antwerpen, 230 pp., [online: 30.04.2009]. URL: http://www2.vlaanderen.be/ruimtelijk/planningsprocessen/plpr_sg/docs/vsgb/VSGB-eindrapport.pdf

MINISTERIE VAN DE VLAAMSE GEMEENSCHAP (MVG): Departement RWO - ruimtelijke planning, OMGEVING, ARCADIS, IDEA CONSULT, TRITEL, O2 CONSULT, 2008b, Eindrapport overlegproces Vlaams stedelijk gebied rond Brussel. Hoofdrapport/kaarten. 14 november 2008, Berchem-Antwerpen, 100 pp., [online: 30.04.2009]. URL: http://www2.vlaanderen.be/ruimtelijk/planningsprocessen/plpr_sg/docs/vsgb/VSGB-kaartenbundel-einddrapport.pdf

MORTIER, R., HASQUIN, H., (dir.), 1997, « Parcs, jardins et forêts au XVIII[e] siècle »; Études sur le XVIII[e] siècle, Vol. 15, 145 pp., Bruxelles, Université libre de Bruxelles (eds.).

PIERRON, S., sine dato, Histoire illustrée de la forêt de Soignes. Tome 1 : La Géographie - L'Histoire - La Juridiction, Bruxelles, Hansa (eds.), 410 pp.

PRICE WATERHOUSE COOPERS (PWC), MINISTRE-PRÉSIDENT DE LA RÉGION DE BRUXELLES-CAPITALE (MPRBC), 2007, Plan de développement international de Bruxelles – Schéma de base. Rapport final, 100 pp., [online: 01.07.2008]. URL: http://www.ieb.be/IMG/pdf/rapport-final-pwc-plan-dev-internat-bxl-30aout07-2.pdf

RANIERI, L., 1973, Léopold II urbaniste, Bruxelles, Hayez (eds.), 396 pp.

ROLAND, L. C., 2011a, La forêt de Soignes, pour un état du lieu, Louvain-la-Neuve, 117 pp., [unpublished: available on request].

ROLAND, L. C., 2011b, « Épaisseur empirique, le tiers état »; Acta Europeana Systemica n°1. Revue en ligne de l'Union Européenne de Systémique, 10 pp., [online: 04.01.2012]. URL, 7.12.2011 (1pub.): http://aes.ues-eus.eu/aes2011/Architecture_Roland.pdf

SCHMITHÜSEN, F., 1999, « Percevoir la forêt et la gestion forestière »; Annales de Géographie 1999, t. 108, n°609-610, pp. 479 à 508, Paris, Armand Colin (eds.), [online: 14.09.2010]. URL: http://www.persee.fr/web/revues/home/prescript/article/geo_0003-4010_1999_num_108_609_206

SECCHI, B., INGALLINA, P. (trans.), 2006 (2000), Première leçon d'urbanisme, Marseille, Eupalinos (coll.), Parenthèses (eds.), 157 pp.

SMOLAR-MEYNART, A. (dir.), 1998, Le quartier royal, Bruxelles, Champs sciences (coll.), CFC (eds.), 317 pp.

STENGERS, I., 1995 (1993), L'invention des sciences modernes, Paris, Champs sciences (coll.), Flammarion (eds.), 210 pp.

TALLIER, P.-A., 2002, « Ces forêts domaniales qui firent la Société Générale (1822 - 1864) »; Revue belge de philologie et d'histoire, Tome 80, fascicule 4, pp. 1243-1274, Histoire médiévale, moderne et contemporaine (eds.).

THISSE, J.-F., THOMAS, I., 2010, « Bruxelles au sein de l'économie belge : un bilan »; Regards économiques, n°80, 18 pp., Louvain-la-Neuve, Institut de Recherches Economiques et Sociales (eds.), [online: 05.08.2010]. URL: http://www.web.cbenm-bcspo.be/website/web_cbenmbcspo_be/assets/files/Bibliotheque/Eco_Bxl_au_sein_Belg_RE080.pdf

TRIOEN, M. L. F. B., 1839, Collection des statuts de toutes les sociétés anonymes et en commandite par actions de la Belgique ; recueillis et mis en ordre d'après les documents officiels communiqués par le gouvernement et d'après les renseignements fournis par les sociétés elles-mêmes ; suivis de tableaux synoptiques. Vade-mecum des industriels, des commerçants et des rentiers, Tome II, Bruxelles, Chez l'auteur (eds.), 457 pp., [online: 06.04.2011]. URL: http://books.google.com

VAN DE KERCKHOF, V., BUSSERS, H., BÜCKEN, V., (dir.), COLLECTIF, 2000, Le peintre et l'arpenteur. Images de Bruxelles et de l'ancien duché de Brabant, Tournai, La Renaissance du Livre (eds.), 326 pp. © Dexia Banque 2000 - © La Renaissance du Livre 2000

VANDEKERKHOVE, K., BRANQUART, E., VERHEYEN, K., 2007, « Description of the historical background that has led to the development of particular national Protected Forest Area frameworks »; COST Action E27: Protected Forest Areas in Europe – Analysis and Harmonisation (PROFOR). Country Report - Belgium, Working Group 1 – Task 1.1., pp. 27-40, [online: 12.04.2010]. URL : http://bfw.ac.at/020/profor/pdf/country/coste27_Belgium.pdf

VANDERMOTTEN, C., MAZIERS, M., PARISEL, C., VANWIJNSBERGHE, S., STÉNUIT, J., LANGHOR, R., COLLECTIF, 2012, « Itinéraires de la forêt de Soignes et de ses abords. 5 itinéraires à pied ou à vélo dans et autour de la forêt »; Hommes et Paysages, n° 40-41, 152

pp., Bruxelles, Société Royale Belge de Géographie (SRBG) (eds.), Les Amis de la Forêt de Soignes (co-eds.).

VAN HECKE, E., HALLEUX, J.-M., DECROLY, J.-M., MÉRENNE-SCHOUMAKER, B., 2009, « Noyaux d'habitat et Régions urbaines dans une Belgique urbanisée »; Monographies Enquête Socio-économique 2001, n°9, 201 pp., Bruxelles, SPF Économie, P.M.E., Classes moyennes et Énergie (eds.).

VAN WERDEN, J., VOSTERMANS, L. JR. (engraving), 1659, « Silva Sonia VVLGO / Sonien Bosch / Philippo IV Hispaniarum et Indiarum Regi Potentissimo Brabantiae Duci Hanc Sonii Nemoris Imaginem DD Antonius Sanderus Gandaven »; Regiae Domus Belgicae, Antoine Sanderus (eds.).

VAN WEVERBERG, K., DE RIDDER, K., VAN ROMPAEY, A., 2008, « Modeling the Contribution of the Brussels Heat Island to a Long Temperature Time Series »; Journal of Applied Meteorology and Climatology, Vol. 47, pp. 976-990, American Meteorological Society (eds.), [online: 04.01.2012]. URL: https://lirias.kuleuven.be/bitstream/123456789/213889/1/VanWeverberg_etal_2008.pdf

VERWILGHEN, M., 2006, Le mythe d'Argenteuil. Demeure d'un couple royal, Bruxelles, Racine (eds.), 614 pp., [online: 06.04.2011]. URL: http://books.google.com

VLAAMSE INSTELLING VOOR TECHNOLOGISCH ONDERZOEK (VITO): DE RIDDER, K., 2007, Meteorological models & remote sensing data in UHI modelling, Mol, [online: 04.01.2012]. URL: http://www.space.noa.gr/welcome/documents/UHI_Consult_Meeting/Athens_UHI_De%20Ridder.pdf

VLAAMSE MILIEUMAATSCHAPPIJ (VMM): Afdeling Operationeel Waterbeheer, dienst Grondwaterbeheer (FRONHOFFS, A., SLENTER, C., D'HONT, D., THOMAS, P.), 2008, Grondwater in Vlaanderen: het Brulandkrijtsysteem, Aalst, VMM (eds.), 125 pp., [online: 04.01.2012].

In particular:

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VLAAMSE REGERING (VR), 1972-2002, Gewestplan (bladen 1976-1980, versie 2002), [online: 04.01.2012]. URL : http://geo-vlaanderen.agiv.be/geo-vlaanderen/gwp/

VLAAMSE REGERING (VR), PROVINCIE VLAAMS-BRABANT (PVB), ARCADIS-GEDAS, 2004, Ruimtelijk structuurplan Vlaams-Brabant. We plannen de toekomst. Tekstbundel, Leuven, 381 pp., [online: 30.04.2009]. URL: http://www.vlaamsbrabant.be/binaries/publicatie-structuurplan-integraal_tcm5-64070.pdf

VLAAMSE REGERING (VR), 2008, Ruimtelijk visie voor landbouw, natuur en bos: regio Zenne-Dijle-Pajottenland. Gewenste ruimtelijke structuur, 70 pp. + 9 kaarten, [online: 07.05.2009]. URL: http://www2.vlaanderen.be/ruimtelijk/planningsprocessen/plpr_bg/agnas/docs/zdp/zdp_grs_20080923.pdf

VLAAMSE REGERING (VR), 2009a, Ruimtelijk visie voor landbouw, natuur en bos : regio Zenne-Dijle-Pajottenland. Operationeel uitvoeringsprogramma, 93 pp., [online: 18.03.2011]. URL: http://www2.vlaanderen.be/ruimtelijk/planningsprocessen/plpr_bg/agnas/docs/zdp/zdp_oup+bijlage_bvr_20090424.pdf

VLAAMSE REGERING (VR), 2009b, Overzichtskaart gebieden operationeel uitvoeringsprogramma (april 2009) (Ruimtelijk visie voor landbouw, natuur en bos. Operationeel uitvoeringsprogramma), [online: 07.05.2009]. URL: http://www2.vlaanderen.be/ruimtelijk/planningsprocessen/plpr_bg/agnas/docs/zdp/zdp_oup_overzichtskaart_bvr_20090424.pdf

WAUTERS, A., 1855, Histoire des environs de Bruxelles ou description historique des localités qui formaient autrefois l'ammannie de cette ville. Tome III, Bruxelles, 756 pp., [online: 06.04.2011]. URL: http://books.google.com

Witte, E., 1969, « De "Société Générale" als drukkingsgroep. Een concreet voorbeeld: de grondspeculaties rondom het Brusselse Justitiepaleis (1838-1840) »; Belgisch Tijdschrift voor Nieuwste Geschiedenis / Revue belge d'histoire contemporaine, Vol. 1, n°1, pp. 6-47, [online: 18.07.2011]. URL: http://www.flw.ugent.be/btng-rbhc/pdf/BTNG-RBHC,%2001,%201969,%201,%20pp%20006-047.pdf

ZITOUNI, B., CORIJN, E. (préface), LATOUR, B. (postface), 2010, Agglomérer ! Une anatomie de l'extension bruxelloise (1828-1915), Bruxelles, Cahiers Urbains (coll.), VUBPRESS Brussels University Press (eds.), 331 pp.

Sources for the illustrations

ADMINISTRATION GÉNÉRALE DE LA DOCUMENTATION PATRIMONIALE (AGDP), 2009, Matrice cadastrale 2009, AGDP (eds.). ©2009 Administration Générale de la Documentation patrimoniale. Aucune partie de ce document ne peut être reproduite et/ou rendue publique au moyen de l'impression, de la photocopie, du microfilm ou de quelque autre manière, sans le consentement écrit préalable de la Documentation patrimoniale.

A. i., 1941 (Sonderausgabe VII / Sp. E), Bruxelles. Blatt Nr 31 (Hergestellt im auftrage Gen. St. d. H. Abt. f. Kr. Karten u. Verm. Wesen II), 1 : 40 000, Bruxelles, Archives de la Ville de Bruxelles (eds.).

CENTRE D'INFORMATIQUE POUR LA RÉGION BRUXELLOISE (CIRB-CIBG), 2009, UrbIS (Brussels Urban Information System), Bruxelles, CIRB-CIBG (eds.). © UrbIS® / Réalisé avec Brussels UrbIS®©- Distribution & Copyright CIRB / Verwezenlijkt door middel van Brussels UrbIS®© - Distribution & Copyright CIBG / Realized by means of Brussels UrbIS®© - Distribution & Copyright CIRB

COMMISSION INTERNATIONALE DE L'ESCAUT (ISC-CIE), 2005, Cours d'eau principaux (map), Eaux de surface : types et catégories (map), Eaux de surface : statut (map), Unités hydrographiques et regroupements (map), ISC-CIE (eds.), [online: 06.04.2011]. URL: http://environnement.wallonie.be/cartosig/EscautMeuse/CartesPDF.html

COMMISSION INTERNATIONALE DE LA MEUSE (IMC-CIM), 2004, Hydrographie générale (map), IMC-CIM (eds.), [online: 06.04.2011]. URL: http://environnement.wallonie.be/cartosig/EscautMeuse/CartesPDF.html

DÉPÔT DE LA GUERRE ET DE LA TOPOGRAPHIE (DGT), 1847, Réduction des plans cadastraux du Dépôt de la Guerre, 1 : 20 000, Bruxelles, Institut Géographique National (eds.).

DEVLEESHOUWER, R., 1964, L'arrondissement du Brabant sous l'occupation française, 1794-1795. Aspects administratifs et économiques, Bruxelles, Université libre de Bruxelles (eds.), 558 pp.

DIRECTION GÉNÉRALE DES VOIES HYDRAULIQUES (DGVH), sine dato, Le canal du Centre. Histoire d'une construction, [online: 11.02.2011]. URL: http://www.canal-du-centre.be/Education/Chc/Fr/chroniqueconstruction.html

EUROPEAN ENVIRONMENT AGENCY (EEA), 2000, clc-iwv2.zip (Corine land cover 2000 lakes F2v0 from Corine land cover 2000 seamless vector database - version 9/2007: CLC2000 Lakes - shape files, vector data, polygon; derived from The European Topic Centre on Terrestrial Environment: Corine land cover raster database 2000 - 100m, Version 09/2007), 1 : 100 000, EEA (eds.), [online: 09.11.2011]. URL, 21.06.2005 (1pub.): http://www.eea.europa.eu/data-and-maps/data/corine-land-cover-2000-lakes-f2v0 © European Environment Agency

EUROPEAN ENVIRONMENT AGENCY (EEA), 2005-2007, BE001L-Bruxelles (European Urban Atlas; provided by Directorate-General Entreprise and Industry), 1 : 10 000, EEA (eds.), [online: 06.04.2011]. URL, 28.05.2010 (1pub.): http://www.eea.europa.eu/highlights/data-and-maps/data/urban-atlas © Directorate-General Enterprise and Industry

EUROPEAN ENVIRONMENT AGENCY (EEA), 2006, CLC 2006 V13 - 100m (g100_06.zip) (Corine Land Cover 2006 seamless vector data – version 13: 02/2010; produced by The European Topic Centre on Land Use and Spatial Information), EEA (eds.), [online: 30.12.2010 – 15.01.2011].

Layers involved: 111 - Continuous urban fabric; 112 - Discontinuous urban fabric; 121 - Industrial or commercial units; 122 - Road and rail networks and associated land; 123 - Port areas; 124 - Airports; 131 - Mineral extraction sites; 132 - Dump sites; 133 - Construction sites; 141 - Green urban areas; 142 - Sport and leisure facilities; 311 - Broad-leaved forest; 312 - Coniferous forest; 313 - Mixed forest; 511 - Water bodies, Inland waters, Water courses; 512 - Water bodies, Inland waters, Water bodies; 521 - Water bodies, Marine waters, Coastal lagoons; 522 – Water bodies, Marine waters, Estuaries; 523 - Water bodies, Marine waters, Sea and ocean / URL, 27.05.2010 (1pub.): http://www.eea.europa.eu/data-and-maps/data/corine-land-cover-2006-raster © European Environment Agency

EUROPEAN ENVIRONMENT AGENCY (EEA), 2009, Biogeographical regions in Europe 2008 (data provided by Directorate-General Entreprise and Industry), EEA (eds.), [online: 09.11.2011]. URL, 25.08.2009 (1pub.): http://www.eea.europa.eu/data-and-maps/figures/biogeographical-regions-in-europe © European Environment Agency

EUROPEAN ENVIRONMENT AGENCY (EEA), 2010, Natura2000_Public_MID2010_100KLAEA.zip (Natura 2000 data - the European network of protected sites; derived from Unit Nature & Biodiversity, DG Environment, European Commission), 1 : 100 000, EEA (eds.), [online: 31.01.2011]. URL, 04.11.2010 (1pub.): http://www.eea.europa.eu/data-and-maps/data/natura © Directorate-General for Environment

EUROPEAN ENVIRONMENT AGENCY (EEA), 2011, WFD_RBDSU_f1v4.zip (River Basin Districts, River Basin Districts Subunits - WISE River basin districts (RBDs) - version 1.4: 06/2011; Data reported by EU Member States, Norway and Switzerland under the Water Framework Directive, Article 13 / The country borders were harmonised with EuroGlobalMap, EuroGeographics, www.eurogeographics.org / Catchments in non-EU Member States were extracted from CCM1, JRC), 1 : 250 000, EEA (eds.) [online: 24.10.2011]. URL, 01.07.2011 (1pub.): http://www.eea.europa.eu/data-and-maps/data/wise-river-basin-districts-rbds-1 © Directorate-General for Environment

EUROPE BASE MAP, 2004-2007, Minor Water (map), Major Water (map), [online: 04.01.2012]. URL: http://web.mit.edu/course/11/11.951/oldstuff/albacete/gis/europe/basemap/

FERRARIS, J.-J. F., 1770, Carte Topographique de la forêt de Soignes et de ses Environs, 1 : 29 000, Bruxelles, Institut Géographique National (eds.).

FERRARIS, J.-J. F., 1771-1178, Carte de Cabinet des Pays-Bas autrichiens et de la Principauté de Liège, 1 : 11 520, Bruxelles, Bibliothèque royale de Belgique (eds.), [online: 10.07.2009]. URL: http://www.kbr.be/collections/cart_plan/ferraris/ferraris_fr.html ; http://www.urba.be/Rues/rues_v.htm

Fig. 5b: HARREWYN, 1694, « La villa de Watermael » (engraving); Castella et Praetoria Nobilium Brabantiae, Jacques Le Roy (eds.), Ugent (eds.), [online: 01.01.2011-01.03.2011]. URL: http://search.ugent.be © Universiteitsbibliotheek Gent

Fig. 5e: a. i., 1693, Le prieuré de Val-Duchesse (engraving), [online: 01.01.2011-01.03.2011]. URL: http://www.urba.be/Rues/rues_v.htm

Fig. 5f: a. i., 1725, Le site du Rouge-Cloître (engraving), [online: 01.01.2011-01.03.2011]. URL: http://www.rouge-cloitre.be/lieu/lieu_index.php?id=12

Fig. 5i: JAN BRUEGHEL L'ANCIEN, sine dato, Le château de Tervuren (126 x 153 cm, oil on canvas), Madrid, Musée du Prado, [online: 01.01.2011-01.03.2011]. URL: http://www.ethesis.net/jacht/jacht_hfst_1.htm

Fig. 5j: a. i., c. 1690, Canonica Ruber Vailis Het Roo Klooster / Reverendo Admodum Domino, D. Laurentio Stroobant, Canonice S Pauli Ruber Vailis in Zonia, Priori Meritissimo D. D. Lucas Vorstermas Junior (engraving), [online: 01.01.2011-01.03.2011]. URL: http://www.malem-auder.org/spip.php?article26

Fig. 5m: SANDERUS A., 1659, Conventus FF. Minorum Capucinorum nuncupatorum Sancti Francisci in Nemore Iuxta Furam Ducis. / Anno Christi MDCLVIII.), [online: 01.01.2011-01.03.2011]. URL: http://www.ethesis.net/jacht/jacht_hfst_1.htm

Fig. 5q: a. i., c. 1560, Insignis Canonica Vimidle Vallis in Suva Zonia Oad Canonicoaum Regularium St Augustini Congregatione Windesnemensis Vulg. Groenendael / Admodum Reverendo Patri in Christo, AC Domino, D. ioanni Lamantio isignis Canonice Viridis Valles Cingregationis Windesnemensis Priore Meritissimo D.D., Lucas Vorstermans, Ivioor, UGent (eds.), [online: 01.01.2011-01.03.2011]. URL: http://search.ugent.be © Universiteitsbibliotheek Gent

FIGURE 14

Fig. 14.1: VAN ORLEY, B. (c. 1488-1541), c. 1533, Le Mois de Mars - Départ pour la chasse devant la cour de Bruxelles (copy), [online: 01.01.2011-01.03.2011]. URL: http://www.llph.co.uk/FlemishWall2/medieval-brussels.jpg

Fig. 14.2: PIETER BRUEGEL L'ANCIEN (1526/1530-1569), 1566, La danse de la mariée (119 x 157 cm, oil on panel), [online: 01.01.2011-01.03.2011]. URL: http://letatlinstudio.com/art/arts/bruegel_54115dance1.jpg

Fig. 14.3: VAN ALSLOOT, D. (1570-1628), 1609, Vue de l'Abbaye de la Cambre près de Bruxelles (54 x 79,5 cm, oil on panel), [online: 01.01.2011-01.03.2011]. URL: http://www.culture.gouv.fr/Wave/image/joconde/0372/m074386_4c05016_p.jpg © Musée des beaux-arts de Nantes, © Videomuseum, © Direction des musées de France, 2007, © Gérard Blot

Fig. 14.4: VAN ALSLOOT, D. (1570-1628), 1616, La Fête au Vivier d'Oye (57 x 100 cm, oil on panel), [online: 01.01.2011-01.03.2011]. URL: http://pintura.aut.org/SearchProducto?Produnum=15757

Fig. 14.5: JAN II BRUEGHEL (1601-1678), c. 1620, Les archiducs en promenade dans le parc du palais (copy), [online: 01.01.2011-01.03.2011]. URL: http://artmight.com/Artists/Breughel-Jan-1568-1625/Breughel-de-Fluwelen-Archdukes-strolling-Sun-126679p.html

Fig. 14.6: DE VADDER, L. (1605-1655), sine dato, Het Zoniënwoud met marktkramers (picture: Museum voor Schone Kunsten, Gent, Paul Hermans), [online: 01.01.2011-01.03.2011]. URL, 07.04.2009 (1pub.): http://nl.wikipedia.org/wiki/Bestand:MSK_Lodewijk_de_Vadder_Het_Zoniënwoud_met_marktkramers_17-03-2009_11-39-39.JPG

Fig. 14.7: D'ARTHOIS, J. (1613-1686), TENIER II, D. (1610-1690), sine dato, Vue dite de Val Duchesse (150 x 188 cm, oil on canvas), [online: 01.01.2011-01.03.2011]. URL: http://www.insecula.com/oeuvre/photo_ME0000087413.html © Copyright A.K.

Fig. 14.8: VAN DER STOCK (17e s.), sine dato, Tableau représentant l'arrière du palais du Coudenberg vu depuis la warande, [online: 01.01.2011-01.03.2011]. URL: http://www.trabel.com/brussel/Brussel-royalsquare.htm

Fig. 14.9: GOETSBLOETS, P. A. J., sine dato (1793-1797), « Traque dans la forêt de Soignes »; Tijdsgebeurtenissen, [Devleeshouwer, 1997: 4].

Fig. 14.10: a. i., 1900-1930, Ferme St-Hubert Langhendries. Petite Espinette. Bucherons dans la forêt de Soignes, [online: 06.04.2012]. URL: http://cartes-postales.delcampe.be

Fig. 14.11: a. i., 1920, Avenue Louise (picture), Collection de Dexia Banque, [MRBC-DMS, s.d.: 1].

Fig. 14.12: DEGREEF, J. (1852-1894), 1892, La Paysagiste (69 x 85 cm, oil on canvas), [online: 01.01.2011-01.03.2011]. URL: http://www.wmaker.net/museedixelles/photos/Jean-Baptiste-Degreef-1852-1894--La-paysagiste-1892_gp694870.html © IRPA

Fig. 14.13: PRIVAT-LIVEMONT, H. (1861-1936), sine dato, Affiche de l'Exposition internationale de 1897, [online: 06.04.2012]. URL: http://ceramiques-de-hasselt.hasseltskeramiek.be/pagina4.html

Fig. 14.14: CASSIERS, H. (1858-1944), sine dato, Affiche de l'Exposition universelle de 1910, [online: 06.04.2012]. URL: http://www.dpvintageposters.com/cgi-local/detail.cgi?d=1245

Fig. 14.15: a. i., c. 1911, Ex-libris des Amis de la Forêt. Je protège : protégez-moi, Les Amis de la Forêt de Soignes (eds.), [online: 06.04.2012]. URL: http://mediaplan.ovh.net/~jacquesd/AFS/OWS/Images/afs_hist06.jpg

Fig. 14.16: BAILLIE, M., 2008, Extrait d'un reportage réalisé en forêt de Soignes lors de la signature de la déclaration d'intention pour une collaboration interrégionale visant la mise en œuvre du schéma de structure par les trois ministres compétents, 10.11.2008, IBGE-BIM (eds.), [online: 06.04.2012]. URL: http://www.soignes-zonien.net/gestion%20de%20la%20foret/schema-de-structure

FONTEYN, G., VAN DE PERRE, G., TOMEI, K., 2007, Rand in zicht: een verrassende kijk op de Vlaamse Rand rond Brussel, Roeselare, Roularta (eds.), 192 pp., [online: 06.11.2011, 05.06.2012]. URL (06.11.2011): http://www.derand.be/Rand-in-zicht-unieke-luchtfoto-s.html URL (05.06.2011): http://www.docu.vlaamserand.be/ned/search-detail.asp?PublicationId=2364 © vzw 'de Rand'

FRICKX, E., 1745, « Carte particulière des environs de Bruxelles avec le Bois de Soigne et d'une partie de la Flandre jusques Gand; Carte particulière des environs de Maestricht, partie de Liège Faucquemont, Pays d'Outre Meuse; Comte de Namur; Carte particulière des environs de Louvain, Aerchot, Dist, Tirlemont, Leau, Iudogne, Malines, et de partie du Pays de Liège » (4 Maps, c. 1730, 22 x 18 inches); Atlas des Pays-Bas, Amsterdam, Covens & Mortier (eds.), [online: 15.01.2011]. URL: http://www.raremaps.com

GOOGLE MAPS, 2010, Orthophotoplan Google, Google (eds.), [online: 06.11.2010]. URL: http://maps.google.be © 2010 Google – Imagerie, © 2010 DigitalGlobe, Aerodata International Surveys, GeoEye, Données cartographiques

GOUVERNEMENT DE LA RÉGION DE BRUXELLES-CAPITALE (GRBC), 2002, Plan Régional de Développement, [online: 06.11.2010, 11.05.2012]. URL (06.11.2010): http://www.prd.irisnet.be/Fr/arrete_complet1.pdf

Fig. 1a: Plan Régional de Développement, Carte 1 - projet de ville, 15.10.2002 URL (15.05.2012): http://urbanisme.irisnet.be/lesreglesdujeu/les-plans-de-developpement/le-plan-regional-de-developpement-prd/le-prd-de-2002-1/prd-cartes-officielles/Carte1Kaart.pdf/view

Fig. 1b: Plan Régional de Développement, Carte 4 - amélioration du cadre de vie, 15.10.2002 URL (15.05.2012): http://urbanisme.irisnet.be/lesreglesdujeu/les-plans-de-developpement/le-plan-regional-de-developpement-prd/le-prd-de-2002-1/prd-cartes-officielles/Carte4Kaart.pdf/view

Fig. 1b: Plan Régional de Développement, Constat introductif, Figure 56 URL (15.05.2012): http://urbanisme.irisnet.be/pdf/prd2002/b1pag41

Fig. 1b: Plan Régional de Développement, Les 12 priorités, Figure 116 - Maillage écologique - situation existante de fait URL (15.05.2012): http://urbanisme.irisnet.be/lesreglesdujeu/les-plans-de-developpement/le-plan-regional-de-developpement-prd/le-prd-de-2002-1/le-prd-de-2002/priorites

Fig. 1b: Plan Régional de Développement, Les 12 priorités, Figure 117 - Actions en matière du maillage bleu URL (15.05.2012): http://urbanisme.irisnet.be/lesreglesdujeu/les-plans-de-developpement/le-plan-regional-de-developpement-prd/le-prd-de-2002-1/le-prd-de-2002/priorites

INSTITUT BRUXELLOIS POUR LA GESTION DE L'ENVIRONNEMENT (IBGE-BIM), 2009, Database.

INSTITUT CARTOGRAPHIQUE MILITAIRE (ICM) : VERSTRAETEN, Th., 1879, Carte topographique et hydrographique de l'Entre-Senne-et-Dyle. Tracés des aqueducs, prises d'eau et galeries de drainage de la distribution d'eau, 1 : 40 000, Bruxelles, Archives de la Ville de Bruxelles (eds.; ref. plan n°105).

INSTITUT CARTOGRAPHIQUE MILITAIRE (ICM), 1885, Carte routière des environs de Bruxelles (rédaction et gravure : 1865-1878, révision de la voirie (gravure) : 1884-1885, transports de la gravure : 1885 ; on canvas), Bruxelles, Archives de la Ville de Bruxelles (eds.; ref. plan n°113/4).

INSTITUT CARTOGRAPHIQUE MILITAIRE (ICM), 1904, Carte routière des environs de Bruxelles (rédaction et gravure 1865-1878, mis à jour de la voirie 1904), 1 : 40 000, Bruxelles, Archives de la Ville de Bruxelles (eds.; ref. plan n°124/6).

INSTITUT GÉOGRAPHIQUE MILITAIRE (IGM), 1975 (c. 1858), Carte topographique et hypsométrique de Bruxelles et ses environs. Dressée à l'Échelle de 1 : 20 000 d'après les plans et documents de l'Établissement géographique fondée par Ph. Vander Maelen, par J^{h}. Huvenne dessinateur topographe et gravée par J. Ongers, Bruxelles, Commission française de la Culture de l'Agglomération de Bruxelles (eds.).

INSTITUT GÉOGRAPHIQUE MILITAIRE (IGM), 1975a, Bruxelles et ses environs (± 1880) (map; exécutée à partir des cartes de l'ICM à l'échelle 1 : 20 000), 1 : 25 000, Commission française de la Culture de l'Agglomération de Bruxelles (eds.).

INSTITUT GÉOGRAPHIQUE MILITAIRE (IGM), 1975b, L'Agglomération de Bruxelles (± 1930) (map; exécutée à partir des cartes de l'ICM à l'échelle 1 : 20 000), 1 : 25 000, Commission française de la Culture de l'Agglomération de Bruxelles (eds.).

INSTITUT GÉOGRAPHIQUE MILITAIRE (IGM), 1975c, L'Agglomération de Bruxelles (map; restitution : 1950-51; levé normal : 1952-53-54; interprétation partielle : 1956), 1 : 25 000, Commission Française de la Culture de l'Agglomération de Bruxelles (eds.).

INSTITUT GÉOGRAPHIQUE MILITAIRE (IGM), 1975d, L'Agglomération de Bruxelles (map; restitution : 1950-51, levé normal : 1952-53-54, révision : 1969-70), 1 : 25 000, Commission Française de la Culture de l'Agglomération de Bruxelles (eds.).

INSTITUT GÉOGRAPHIQUE NATIONAL (IGN), 1988-2002, Carte topographique 1 : 20 000. Ed. 1. (31: 3-4, 7-8 ; 32: 1-2; 39: 1-2, 3-4; 40: 1-2), 1988-1997 (aerial photography), 1991-2001 (photogrammetric plotting), 1993-2002 (map editing), Bruxelles, IGN (eds.).

INSTITUT GÉOGRAPHIQUE NATIONAL (IGN), 2002-2008, Carte topographique 1 : 50 000, édition 2, DVD « Flandre & Bruxelles », IGN - Lanoo - ADW Pythagoras (eds.).

MINISTÈRE DE LA RÉGION DE BRUXELLES-CAPITALE (MRBC) : Direction des Monuments et des Sites (DMS), sine dato, « Méthodologie de l'inventaire de Bruxelles-Extensions Sud »; Inventaire du Patrimoine architectural. Bruxelles-Extensions Sud, 2 pp., Bruxelles, P. Crahay (eds.), [online: 06.04.2011]. URL: http://www.irismonument.be/pdf/fr/1001-methodologie_bruxelles-extensions_sud.pdf

MINISTERIE VAN DE VLAAMSE GEMEENSCHAP (MVG): Departement RWO - ruimtelijke planning, OMGEVING, ARCADIS, IDEA CONSULT, TRITEL, O2 CONSULT, 2008b, Eindrapport overlegproces Vlaams stedelijk gebied rond Brussel. Hoofdrapport/kaarten. 14 november 2008, Berchem-Antwerpen, 100 pp., [online: 30.04.2009]. URL: http://www2.vlaanderen.be/ruimtelijk/planningsprocessen/plpr_sg/docs/vsgb/VSGB-kaartenbundel-einddrapport.pdf

ORTELIUS, A., 1624 (1854), « Belgii Veteris Typus »; Theatrum Orbis Terrarum, [online: 15.01.2011]. URL: http://www.orteliusmaps.com/images/5949.htm

PIXELSBW, sine dato, Vues aériennes du Brabant Wallon, [online: 24.05.2010]. URL: http://www.pixelsbw.com/vu%5Fdu%5Fciel/

PLACQ, G., 1951, « Le développement du réseau routier belge de 1830 à 1940 »; Bulletin de l'Institut de Recherches Economiques et Sociales, n° 17, pp. 425 à 459, [online: 11.02.2011]. URL: http://wegen-routes.be/hist/hist15f.html

SINTZOFF, sine dato, [online: 11.02.2011]. URL: http://membres.multimania.fr/sintzoff/cartes/1830-2000.gif

TUNDRIA, sine dato, [online: 30.03.2011]. URL: http://www.tundria.com/trams/BEL/Brussels-1952.shtml © Gabor Sandi 1998-2012

WAR OFFICE (WO) : Géographical section - General Staff n°2364, 1915, Brussels (map; 85,6 x 72 cm), 1 : 100 000, Bruxelles, Archives de la Ville de Bruxelles (eds.; ref. plan n°133 ter).

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